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**System for Award Management (SAM)–Creating Efficiencies in Federal
Government Contracting through the Use of Streamlining and
Integration**

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September 2011**

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IN FEDERAL GOVERNMENT CONTRACTING THROUGH THE USE OF
STREAMLINING AND INTEGRATION**

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SYSTEM FOR AWARD MANAGEMENT (SAM)–CREATING EFFICIENCIES IN FEDERAL GOVERNMENT CONTRACTING THROUGH THE USE OF STREAMLINING AND INTEGRATION

ABSTRACT

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TABLE OF CONTENTS

I.	INTRODUCTION.....	1
A.	BACKGROUND	1
B.	RESEARCH OBJECTIVE	2
C.	RESEARCH QUESTIONS	2
1.	Primary Research Question	2
2.	Secondary Research Questions.....	3
D.	SCOPE AND METHODOLOGY	3
E.	ORGANIZATION OF STUDY	3
F.	BENEFITS OF RESEARCH.....	4
G.	SUMMARY	4
II.	LITERATURE REVIEW	5
A.	OVERVIEW	5
B.	ANALYSIS OF EXISTING INITIATIVES	6
C.	SYSTEM FOR AWARD MANAGEMENT	9
D.	CONCLUSIONS AND SUMMARY	10
III.	ANALYSIS OF EXISTING SYSTEMS	13
A.	FEDERAL BUSINESS OPPORTUNITIES (FBO)	13
B.	CENTRAL CONTRACTOR REGISTRATION (CCR).....	16
C.	WAGE DETERMINATIONS ON-LINE (WDOL)	17
D.	ONLINE REPRESENTATIONS AND CERTIFICATIONS APPLICATION (ORCA)	19
E.	PAST PERFORMANCE INFORMATION RETRIEVAL SYSTEM (PIRS)	20
F.	EXCLUDED PARTIES LIST SYSTEM (EPLS)	23
G.	FEDERAL PROCUREMENT DATA SYSTEM-NEXT GENERATION (FPDS-NG)	25
H.	ELECTRONIC SUBCONTRACTING REPORTING SYSTEM (ESRS).....	26
I.	CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA)	28
J.	SUMMARY	30
IV.	SYSTEM FOR AWARD MANAGEMENT (SAM)	33
A.	OVERVIEW	33
B.	STREAMLINING AND INTEGRATION	34
C.	CREATING EFFICIENCIES	38
D.	SUMMARY	42
V.	CONCLUSION AND RECOMMENDATIONS.....	45
A.	CONCLUSION	45
B.	FUTURE RECOMMENDATIONS	47
C.	ADDITIONAL SYSTEMS THAT COULD BE INCLUDED IN SAM	47
D.	SUGGESTED AREAS FOR FURTHER STUDY	49

E. SUMMARY	50
APPENDIX–LEGACY AND SAM EXTRACT SYSTEMS.....	51
LIST OF REFERENCES	73
INITIAL DISTRIBUTION LIST	77

LIST OF FIGURES

Figure 1.	Five key elements of IAE (From: McClaren et al., 2003).	7
Figure 2.	PPIRS data flow (From: Bartley & Ross, 2009).....	22
Figure 3.	CFDA statistics: Programs at a glance (From: CFDA, www.cfda.gov).....	29
Figure 4.	Current procurement process (From: GSA: <i>SAM–Creating Efficiencies through Integration and Consolidation</i> , July 2011)	31
Figure 5.	SAM–Today and in the future (From: GSA: <i>SAM–Creating Efficiencies through Integration and Consolidation</i> , July 2011)	34
Figure 6.	Six functional areas of SAM (From: GSA: <i>SAM–Creating Efficiencies through Integration and Consolidation</i> , July 2011)	36
Figure 7.	SAM phased timeline (From: GSA: <i>SAM–Creating Efficiencies through Integration and Consolidation</i> , July 2011).....	37

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LIST OF TABLES

Table 1.	Legacy system inefficiencies	39
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LIST OF ACRONYMS AND ABBREVIATIONS

ACASS	Architect-Engineer Contract Administration Support System
ARRA	American Recovery and Reinvestment Act
ASFI	Army Single Face to Industry
BEA	Business Enterprise Architecture
CAGE	Commercial and Government Entity
CCASS	Construction Contract Administration Support System
CCR	Central Contractor Registration
CFDA	Catalog of Federal Domestic Assistance
CPARS	Contractor Performance Assessment Reporting System
D&B	Dun and Bradstreet
DBA	Davis-Bacon Act
DoD	Department of Defense
DOL	Department of Labor
DUNS	Data Universal Numbering System
E2E	End-to-End Procurement
EFT	Electronic Funds Transfer
EPLS	Excluded Parties List System
eSRS	Electronic Subcontracting Reporting System
FAPIIS	Federal Awardee Performance and Integrity Information System
FAR	Federal Acquisition Regulation
FASA	Federal Acquisition Streamlining Act
FBO	Federal Business Opportunities
FPDS-NG	Federal Procurement Data System–Next Generation
FSD	Federal Service Desk
GAO	U.S. Government Accountability Office
GSA	General Services Administration
GWACS	Government-Wide Acquisition Contracts
IAE	Integrated Acquisition Environment
IAW	In accordance with

JECPO	Joint Electronic Commerce Project
MACS	Multi-Agency Contracts
NAICS	North American Industry Classification System
OMB	Office of Management and Budget
ORCA	Online Representations and Certifications Application
PCF	Paperless Contract Files
PPIRS	Past Performance Information Retrieval System
SAM	System for Award Management
SCA	Service Contract Act
U.S.	United States
WAWF	Wide Area Workflow
WDOL	Wage Determinations On-Line

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For every one of us that succeeds, it's because there's somebody there to show you the way out.

– Oprah Winfrey

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I. INTRODUCTION

This chapter presents the purpose, research objective, research questions, scope and methodology and the benefits of this research for an analysis of the System for Award Management (SAM) and how the use of the system can create efficiencies and streamlining in federal government contracting.

A. BACKGROUND

Throughout history, federal government contracting has been plagued by complicated processes and data redundancies. Various checks and balances are necessary to ensure that the government is getting the best value at a fair and reasonable price. For each of the systems that the government has to log into to verify information, contractors must also log into to input their information. The Federal Acquisition Streamlining Act (FASA) passed by Congress in 1994 marked the beginning of the mandated use of e-commerce in federal business (Graw & Wyatt III, 2002). Based on FASA, DoD formed the Joint Electronic Commerce Project (JECPO) as the umbrella organization for implementation of the electronic initiatives. JECPO is responsible for improving DoD acquisition processes by accelerating e-business practices and information technologies.

The government currently uses various e-commerce tools to complete a single acquisition. The government places a brief synopsis of any potential requirements in Federal Business Opportunities (FBO) and also posts the solicitation there, which contains the requirement in more detail and contains information on how a potential contractor can submit a proposal or quote. In the current environment, before an award is made, the government needs to ensure that a contractor is registered in the Central Contractor Registration (CCR) and has a valid Commercial and government Entity (CAGE) code. Past performance information must be checked in the Past Performance Information Retrieval System (PPIRS) to see how a contractor has performed on prior contracts for similar work. A contractor's certifications and representations regarding its business size, type and responses to special clauses has to be checked in the Online Representations and Certifications Application (ORCA), and the government needs to

make sure the contractor is not debarred or suspended by checking the Excluded Parties List System (EPLS). If the contractor is a large business, the government must ensure that the Small Business Subcontracting Plan (SBSP) is updated and loaded into the Electronic Subcontracting Reporting System (eSRS). When an award is made, the government has to ensure that the information on the contractor and the work to be performed is reported in the Federal Procurement Data System–Next Generation (FPDS-NG). It should be noted that each of these systems has separate logins, and there could be conflicting information in some of the systems, leading to confusion and lost efficiency as well as longer procurement lead times.

In an era when the trend in government contracting is to do more with less, efficiencies definitely need to be developed to shorten acquisition lead times and find ways to continuously provide exemplary customer service to the warfighter at a fair price.

This research will explore the capabilities and limitations of the current legacy systems and how the integration of all of these systems into SAM can create efficiencies in federal government contracting. For the purposes of this research, efficiencies in federal government contracting will be limited to the efficiencies created as the result of consolidated databases.

B. RESEARCH OBJECTIVE

The author intends to provide an in-depth analysis of the current legacy systems and how SAM will use integration and streamlining to create efficiencies in federal government contracting. The nine legacy systems have been targeted for inclusion in SAM, but the research will also recommend other systems that could benefit from the efficiencies created by SAM. SAM will be deployed in phases, with the first phase scheduled to be available in winter 2012.

C. RESEARCH QUESTIONS

1. Primary Research Question

How can GSA improve efficiencies in federal government contracting databases through the use of System for Award Management (SAM)?

2. Secondary Research Questions

- What are the pitfalls associated with legacy systems?
- How will SAM address current inefficiencies from legacy systems?
- What additional systems could be added to SAM to create additional efficiencies?

D. SCOPE AND METHODOLOGY

The scope of this research project is limited to the analysis of frequently used legacy federal procurement systems and the Catalog of Domestic Assistance and their integration into SAM. Other Federal Procurement Systems will only be looked at to provide a recommendation if they should be integrated into SAM. The research will be conducted utilizing four steps. The first step will be to review literature on the existing streamlining integration initiatives and SAM. The second step will be to do an in-depth analysis of the use and purpose of each of the legacy procurement systems and their current pitfalls. The third step will be an in-depth analysis of SAM and how it will utilize streamlining and integration to create efficiencies in federal government contracting through the use of consolidation. The final step will involve providing a conclusion on SAM's ability to create efficiencies in federal government contracting through the use of streamlining and integration through the merger of the eight legacy systems and the Catalog of Federal Domestic Assistance (CFDA)¹ into one system. This step will also include recommendations on additional systems that could be added to SAM to create additional contracting efficiencies.

E. ORGANIZATION OF STUDY

This study comprises five chapters.

Chapter I–Introduction: This chapter provides background, the research objective, research questions both primary and secondary, scope and methodology, and the benefits of the research.

¹ From this point forward, CFDA will be included in the discussion of the legacy systems and it will be described as nine legacy systems.

Chapter II–Literature Review: This chapter provides an examination of the available writings in the area of creating efficiencies and streamlining in federal government contracting as well as available literature on the existing streamlining initiatives and SAM.

Chapter III–Analysis of Existing Initiatives: This chapter will include an in-depth analysis of the current legacy procurement systems and the purpose and current pitfalls of each.

Chapter IV–System for Award Management: This chapter will provide an overview of SAM and how it provides streamlining, integration, and efficiencies.

Chapter V–Conclusions and Recommendations: This chapter provides a conclusion on SAM’s ability to create efficiencies in federal government contracting and will include recommendations on additional systems that could be added to SAM to create additional contracting efficiencies.

F. BENEFITS OF RESEARCH

This research is intended to offer analysis into the use of SAM to create efficiencies in federal government contracting by consolidating current legacy federal procurement systems into one portal through the use of streamlining and integration.

G. SUMMARY

This chapter provided an overview of the research that will be contained in the subsequent pages. This chapter also provided the purpose, research objective, research questions, scope and methodology and the benefits of this research and a general outline of the paper.

The next chapter will discuss details on the documents the author reviewed to gain insight into streamlining and creating efficiencies in federal government contracting as well as information on the current legacy procurement systems and SAM. The documents reviewed include journal articles, PowerPoint presentations on SAM, and the websites of the various legacy systems.

II. LITERATURE REVIEW

A. OVERVIEW

This chapter begins with an overview of the efforts to create efficiencies and streamlining in federal government contracting. Next a literary overview of efforts in place to streamline existing systems will be looked at, followed by a literary overview of SAM. The focus of this chapter will be a review of the literature available on the existing federal procurement systems and SAM and to review the existing efforts to address the inefficiencies in federal government contracting through integration.

Various efforts have pushed the federal government to move toward electronic acquisition processing to create more efficiency and shorten acquisition lead-time. Specifically, in the Department of Defense's (DoD) Strategy for Operating in Cyberspace (July 2011), the federal government instituted an effort to replicate private sector by utilizing emerging computing concepts and determined that shortening the procurement lifecycle and increasing speed is a critical priority. This lack of efficiency is not a new issue for DoD though as evidenced by a 1997 U.S. government Accountability Office (GAO) audit that found that DoD payment problems are traceable to three factors one of which is "nonintegrated computer systems that require a manual data entry" (Bishop, 2003).

The acquisition community faces both internal and external challenges that can be addressed by the use of integrated tools such as SAM. Some of the internal challenges are that "financial and procurement systems are often not integrated" and "legacy information systems support only limited aspects of acquisition functionality and typically do not comply with agency technology architectures" (McClaren, Sharma, & Zapfel, 2003). Some of the external challenges are a lack of integration with other legacy systems of FPDS-NG and that the existing supplier databases are fragmented and require multiple searches as databases (McClaren, Sharma, & Zapfel, 2003). Both the external and internal challenges point directly to the lack of the use of integration to create

efficiencies. With greater efficiencies and streamlining, those challenges would be addressed. SAM is a key initiative to address these challenges but there are other existing initiatives as well.

B. ANALYSIS OF EXISTING INITIATIVES

The Integrated Acquisition Environment (IAE) is an initiative that was a part of the 24 e-government initiatives created by the President George W. Bush's 2002 Management Agenda (McClaren et al., 2003). The President's Agenda required federal agencies to utilize technology to enhance business operations and directed agencies to dramatically improve the level of service provided to citizens (Ibid.). IAE is managed by General Services Administration (GSA) and is the single most important initiative to the federal acquisition community and SAM is a part of this initiative. The five key elements of IAE are shown in Figure 1.

According to McLaren et al. (2003), the IAE initiative focuses on three key concepts, which are:

- Creating a simpler, common, integrated business process for buyers and sellers that promotes competition, transparency and integrity
- Increasing data sharing to enable better business decisions in procurement, logistic, payment and performance assessment; and
- Taking a unified approach to obtaining modern tools to leverage investment costs for business-related processes.

The main focus of IAE is to create efficiencies through the use of standardization and collaboration amongst agencies and systems and between the government and vendors. The IAE initiative recognizes that not only procurement offices benefit from acquisition integration, but also program offices, Chief Information Officers, Chief Financial Officers and accounting. The streamlining effects of electronic acquisition systems allows for a better defined, approved and funded requirement. According to the Acquisition Central website (<https://www.acquisition.gov/index.asp>), the vision of IAE is to achieve a "more efficient and transparent practices through better use of information,

people, processes and technology.” While IAE will be fully implemented over several years, the end result is that federal agencies will benefit from the standardization and integration that it creates.

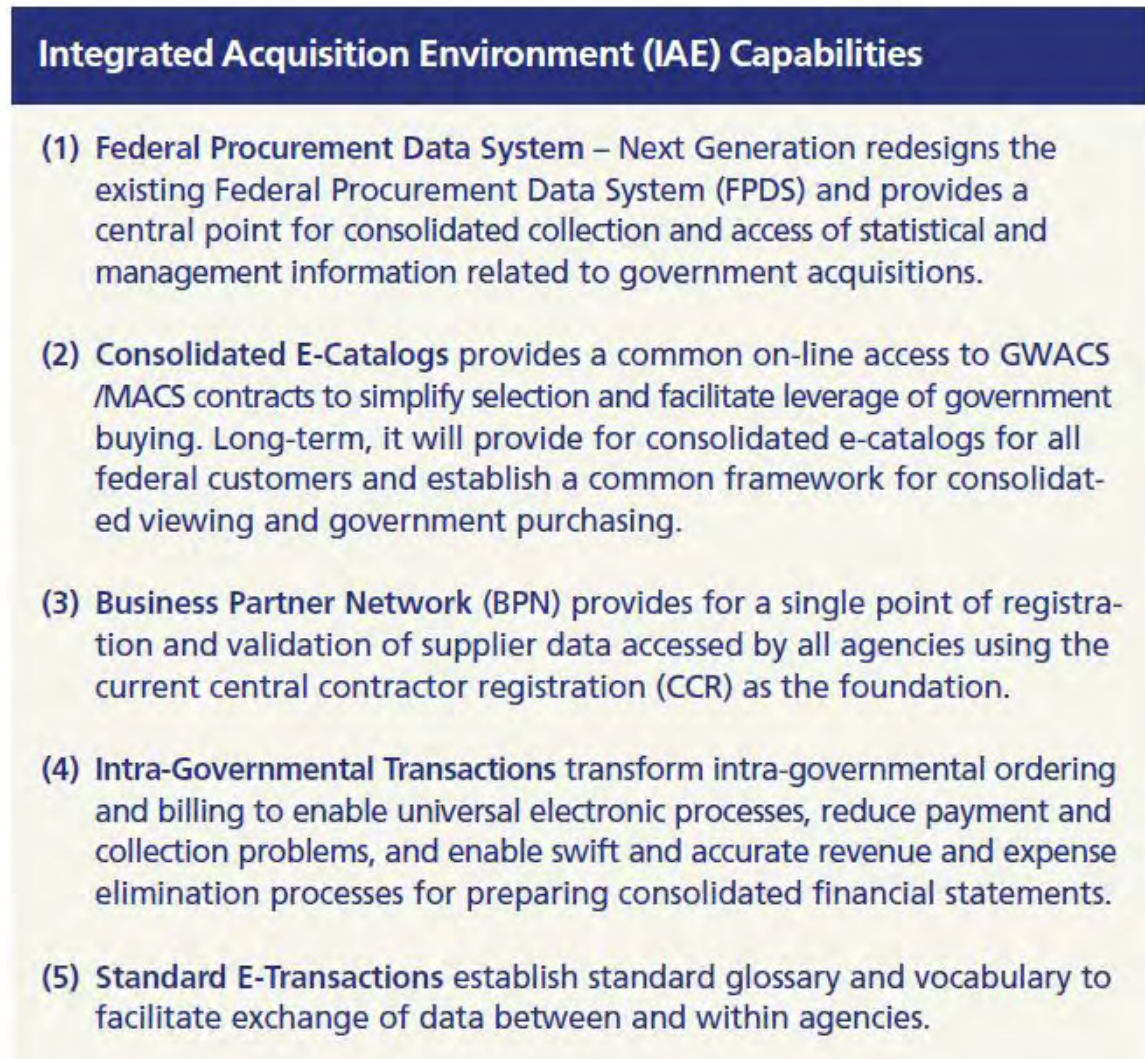


Figure 1. Five key elements of IAE (From: McClaren et al., 2003).

The Business Enterprise Architecture (BEA) is an initiative with the purpose of centralizing many sources of acquisition information. BEA focuses on the major segments of a business process, referred to as “domains,” the domains that it focuses on are acquisition, logistics, accounting and finance, strategic programming and budgeting, technical infrastructure, human resource management, and installations and environment

(Bishop, 2004). The sharing of information across the business process areas improves the reliability of the information because it is coming from the same source. This part of the BEA concept is similar to the concept of SAM, which promotes moving away from the concept of siloed systems. BEA recognizes that the information such as vendor and past performance information is currently available but it is in multiple systems with multiple logins. Additionally, the systems often do not operate in real time, which creates a lag between the action and reporting, which leads to an issue of timeliness (Bishop, 2004).

BEA focuses on the two areas of government purchase card management and military equipment valuation. There is a perceived lack of internal controls as it relates to the purchase card, and the reform of military equipment valuation will enable a spend analysis, which will identify critical data that can be utilized to improve future acquisitions. BEA does not focus on eliminating the use of legacy systems as it recognizes that there are some critical capabilities that those legacy systems provide. Instead, BEA attempts to align acquisition systems and processes to create consolidation and eliminate redundancies and outdated processes and systems (Bishop, 2004). Data integrity is promoted through the BEA initiative because the amount of user input is decreased significantly since information is shared amongst systems instead of individually input by users.

Another initiative that focused on streamlining acquisition processes to create efficiency is known as End-to-End procurement (E2E). Electronic contracting will be implemented through the E2E procurement process. Electronic contracting means that systems are linked together to provide consistency of data amongst acquisition professionals. It allows data to be created by one user and passed through to others without manual input (Bishop, 2003). E2E was deployed in 1999 by DoD and links several functional areas so that data can be shared as it relates to an acquisition. E2E primarily focuses on the financial and acquisition communities but there is an attempt by DoD to include members of logistics as well. A key concept of this initiative is to avoid duplication of effort but ensuring that integration is used to share information (Bishop, 2003). E2E recognizes that multiple systems and lack of integration have a negative

impact on acquisition professionals as well as contractors because contractors also have to juggle the various systems for contract actions. The issue multiplies if they do business with multiple contracting offices or payment offices. Similar to BEA, E2E follows the premise that the fewer times manual input occurs, the fewer chances there are for errors to occur. E2E does not seek to remove human intervention from the process, as it recognizes that federal government contracting cannot be 100% automated. Instead it seeks to create efficiencies by changing how acquisition professionals receive contract requirements and financial information (Bishop, 2003). The future of E2E seeks to have acquisition professionals receive data seamlessly without manual intervention. The data will be standardized through the use of standard transaction sets of data designed to forward data in a pre-determined order from the contract writing system. Using the contract writing system as the basis could prove problematic though because different agencies use different contract writing systems and the data may not originate from the same location and will therefore affect how seamless that data flow can actually be.

C. SYSTEM FOR AWARD MANAGEMENT

Unlike past efforts by the federal government to address inefficiencies in contracting, the deployment of SAM may be an indication that they are learning from things that did not work in the past. One of the key differences with SAM is that it will be open-source software. General Services Administration (GSA) was the agency responsible for awarding the contract for SAM. When this requirement was solicited, development bids were solicited requiring that the software be public, unlike past requirements that allowed the contractor to have proprietary rights (Chacko, 2011). Normally companies submit a higher bid when they have to give up proprietary rights because they know that it eliminates the sole source follow-up requirements typical of government contracts for similar work. Additionally, SAM being open-source software increases competition for future upgrades and increases the pool of ideas that will be available to the government to continue to create additional efficiencies and integration. Fornecker expects that SAM will reduce the instances of errors by reducing the number of data entry points that contractors and agencies have to complete (Chacko, 2011).

Additionally, transparency in government contracting will be increased because the public will have a tool to get bulk data vs. the multiple systems that have to be queried in the current environment.

SAM is being looked at to resolve many of the errors and inconsistencies currently experienced in government contracting. Most of the current systems are managed by GSA so it makes sense that GSA would be tasked with the consolidation of the current systems. GSA even recognizes that the current framework is not optimal for the key users. “Multiple logins and data overlap are inefficient and confusing and they create opportunities for errors...” (Sochon, 2011) is the theme that started the creation of SAM. The current systems also have separate management, support and hosting, which leads to higher costs because one change may need to be made that affects multiple systems but since there is separate hosting, a fee has to be paid for each system even though it is the same change. The consolidation of the systems through SAM will not only result in a cost savings because one change will only have one fee, but also the change will be more timely because there will be no delay across the various hosts as to when they make the change. SAM will not just integrate the existing systems but “it will consolidate and replace them with a single database, which will have one login, normalized data, and one host” (Sochon, 2011).

D. CONCLUSIONS AND SUMMARY

The federal government contracting process must undergo a huge transformation, which will not happen instantly and will require multiple initiatives to make it fully successful. IAE, E2E, and BEA are just a few of the efforts that the federal government has implemented to create greater efficiencies and streamlining through the use of integration. The deployment of SAM as open-source software will take the initiatives one step further by not only creating greater efficiencies but also reducing data redundancy and improving the accuracy of information. Further, SAM will increase transparency of federal government contracting to the public, which further promotes FASA.

This chapter has given an overview of the literature available on existing initiatives as well as the literature on SAM, which currently is limited since the system does not deploy until 2012. The current literature on SAM focuses on what it will do; once it is deployed the author expects that literature will increase because an actual evaluation of how the system creates these efficiencies will be available. The next chapter will include an in-depth analysis of the current legacy procurement systems and the purpose and current pitfalls of each.

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III. ANALYSIS OF EXISTING SYSTEMS

A. FEDERAL BUSINESS OPPORTUNITIES (FBO)

FBO is used by government acquisition professionals and vendors interested in federal contract opportunities. The use of FBO is required by Federal Acquisition Regulation (FAR) 5.2, the Small Business Act ([15 U.S.C. 637\(e\)](#)) and the Office of Federal Procurement Policy Act ([41 U.S.C. 416](#)). The information posted in FBO begins when the government has a requirement and continues through the posting of an award notice. The main purpose of the system is to provide information on proposed contract actions to increase competition, broaden industry participation, and assist small business concerns in obtaining contracts and subcontracts (Sochon, 2011). FBO is the government single point of entry for federal buyers to provide a forum to publish information to industry for multiple departments and agencies. Users access FBO using different Internet protocols but the system employs a standard data exchange protocol that was developed in accordance with (IAW) FAR 5.2, Synopses of Proposed Contract Actions ([www.fbo.gov](#)). According to [www.fbo.gov](#), the current data exchange protocol is based on a set of tagged document templates that each represent a specific acquisition type. There are currently sixteen (16) of these templates. A listing of each of the templates and their primary purpose is as follows per [www.fbo.gov](#):

1. Presolicitation Notice–Synopsis: This is used for the publication of notices for proposed acquisitions and the fields are created IAW with FAR 5.207. FAR, Section 5.2 requires the submission of this document prior to the publication of any further actions. FBO is set up to reject any other documents that refer to a specific solicitation without previous publication of the Presolicitation Notice for that solicitation. IAW FAR 5.203, the notice must be posted 15 days before the solicitation is posted.
2. Combined Synopsis/Solicitation: This is used to publish both a presolicitation notice (synopsis) and a solicitation in a single FBO submission for commercial items only, as defined by the FAR 5.202 and

12.603. The combined synopsis/solicitation notice does not require a minimum 15-day delay between notice publication and solicitation release, thus allowing both buyers and vendors to save time publishing and responding to a “commercial items” opportunity more quickly.

3. Amendment to a Previous Combined Solicitation: This is used for any amendments or corrections to a posted combined synopsis/solicitation.
4. Modification to a Previous Base Notice: This is used for any amendments or corrections to a previously posted action.
5. Award Notice: This is used for the publication of contract awards IAW FAR 5.3.
6. Justification and Approval (J&A): This is used for the publication of a synopsis for J&As as well as the actual J&A IAW FAR 6.305 that provides for public disclosure of J&As.
7. Intent to Bundle Requirements (DoD Funded): Used to publicize intent to bundle requirements.
8. Fair Opportunity / Limited Source Justification: This is used for the publication of the synopsis of Fair Opportunity or Limited Source Justifications. This provides a mechanism for contracting officers to post justifications to FBO when they make a delivery/task order award under a multiple award indefinite delivery contract and do not provide fair opportunity.
9. Sources Sought Notice: This is used as a means of market research in order to determine if there are any commercially available sources to meet the government’s requirement. This template is also used to determine if a requirement should be set aside for special categories of contractors such as small businesses. Responses to this notice do not always result in an award. This template is per the procedures prescribed in FAR 7.3 and Office of Management and Budget (OMB) Circular A-76.

10. Foreign government Standard: This template is used for notification of actions for foreign government such as those related to an international agreement or treaty.
11. Special Notice: This is used for the announcement of procurement matters such as business fairs, long-range procurement estimates, pre-bid/pre-proposal conferences, meetings, and the availability of draft solicitations or draft specifications for review.
12. Sale of Surplus Property: This is used to publicize the public sealed bid of government surplus property. Vendors could potentially use the property gained from this sealed bid for reverse engineering or for future procurements.
13. Document Upload: This template provides links to all solicitation documents that are available for viewing and downloading from the Internet. This template is used when documents are available on a server other than FBO and provides vendors with a link to access the other sites.
14. Document Deleting: This is used when documents need to be removed from FBO. It is used for deleting synopses, solicitations and related documents from the system. It is impossible to delete a modification without deleting the associated notice. The system will allow deletion of an entire notice (including all postings for that notice), or deletion of files uploaded to that solicitation number. FBO does not recommend deleting information because it could have already been viewed and/or downloaded. Instead, it is recommended that buyers post a modification or amendment instead of deleting.
15. Document Archival: This is used to change the date on which a posting's status on FBO becomes inactive.
16. Document Unarchival: This is used to change the status of posting from inactive to active again.

FBO contains a great deal of information for both buyers and industry and is used as a single point of entry. However, some services have a gateway to get to FBO instead of using FBO directly. Specifically, the Army requires federal buyers to use Army Single Face to Industry (ASFI) and they are not permitted to post requirements directly to FBO. The fields and categories in ASFI are not exactly the same as in FBO, which leads to buyers not knowing which fields in FBO will be populated by the data they put in ASFI. FBO currently does not have a secure place for vendors to upload their proposals. Instead buyers must provide either a separate website or e-mail or mailing address for proposals to be submitted. An ideal improvement and an increased efficiency to FBO would be this ability for buyers to electronically receive proposals.

B. CENTRAL CONTRACTOR REGISTRATION (CCR)

The CCR provides a central location of administrative information for all contractors that would like to do business with the federal government. It is the primary registrant database for the federal government to collect, validate, store, and disseminate data in support of agency acquisition missions (www.ccr.gov). This information includes the contractors CAGE code, which is a five (5) position code assigned by Defense Logistics Agency Logistics Information Service that identifies companies doing or wishing to do business with the federal government. IAW FAR 4.11, prospective vendors must be registered in CCR prior to the award of a contract, basic agreement, basic ordering agreement, or blanket purchase agreement. Additionally, IAW FAR 52.204-7, a vendor must have a Data Universal Numbering System (DUNS) number, which is assigned by Dun & Bradstreet, Inc. (D&B) in order to register in the CCR. The government generally requires that each office of a particular contractor have a separate DUNS and CAGE code. Registry information includes basic, general corporate and financial information that must be updated every twelve months or before that if the information changes. The information in CCR is shared with government finance offices to facilitate paperless payments through Electronic Funds Transfer (EFT). Contractors are required to identify the North American Industry Classification System (NAICS) codes in CCR that represent their most common lines of business.

The CCR has already gone through one consolidation in 2004 where the search capabilities and functions previously available in the Small Business Administration's (SBA's) PRO-Net system became available in CCR. PRO-Net was a database of small businesses categorized by the goods and services that they could provide to the federal government. The integration of CCR and PRO-Net meant that small business firms no longer had to register in both systems, thereby creating efficiency and a streamlined process for the businesses.

The CCR was actually created with the goal of creating more efficiency. It was implemented as part of an initiative to eliminate the need to maintain paper-based sources of contractor information and to eliminate contractors having to manually provide the same information for every solicitation. The requirement that each office of a contractor have a separate DUNS and CAGE code actually leads to reporting errors and some inconsistencies. For example, if a contractor is reporting their revenue and number of employees by DUNS number then an otherwise large business could appear to be small because the information is limited to that one site and not the company as a whole. This could lead to large businesses getting small business awards due to the way information is reported. To prevent this, CCR could be structured so that all companies have a parent CAGE and DUNS that is used for reporting on their company as a whole by NAICS code. The sub-category CAGE and DUNS page would have a designation when searched that it is not the parent and there would also be a link on that page to the search page of the parent. This process would avoid some of the common errors associated with CCR searches and reporting errors.

C. WAGE DETERMINATIONS ON-LINE (WDOL)

WDOL is a system used by contracting officer's to obtain Service Contract Act (SCA) and Davis-Bacon Act (DBA) wage determinations. DBA wage determinations were created to keep non-local contractors from causing economic disruption by coming into an area and obtaining federal construction contracts by underbidding local wage levels (www.wdol.gov). DBA requires that contractors and subcontractors pay laborers and mechanics no less than the locally prevailing wages and fringe benefits paid on

projects of a similar nature. Contracting officers must use WDOL to ensure that the appropriate DBA wage rate is being used. SCA is applicable to services and it provides standards for prevailing compensation and safety and health protections for employees performing work on federal service contracts. SCA wage determinations must be made at the time of solicitation, award, modification, option exercise, contract extension, or scope of work change that affects labor requirements. Contracting officer's must use the rates obtained in WDOL for service contracts to ensure that the prevailing SCA wages and benefits are incorporated into the contract. Contracting officers can also use WDOL for direct access to the Department of Labor's (DOL's) "e98" website to submit requests for SCA wage determinations. This direct access to DOL's site is necessary because there are instances when WDOL will not have the appropriate SCA wage determination and contracting officers are directed to DOL's e98 website to obtain the appropriate wage determination. There are also instances where a contracting officer awards a contract based on the wage determination obtained from WDOL and is later notified that the appropriate SCA or DBA wage determination was not provided. In this instance, within 30 days of notification contracting officers must include the appropriate wage from the DOL e98 website into the contract action. WDOL can be used by federal, state, and local contracting agencies, contractor associations, labor organizations, employees, and the public while e98 is exclusively for use by federal contracting officers.

WDOL was actually created as a part of the IAE initiative covered in chapter 2. In addition to wage determinations, the site also contains links to important labor standard information such as DOL regulations, the Prevailing Wage Resource Manual, and related FAR regulations relating to labor standards. Users of WDOL must complete a series of questions pertaining to each specific contract action such as elements of the statement of work, prior contracts, and the place of performance for the work in order to get the appropriate wage determination.

WDOL gets information from National Technical Information Service (NTIS), which received information from DOL on the SCA and DBA wage determinations. NTIS updates their database on a weekly basis. WDOL could be made more efficient simply by not having NTIS as another layer of communication between DOL and

WDOL. Contracting officers are not getting information in “real time” under the current environment since information is only updated weekly. Additionally, contracting officers have to first query WDOL in some instances just to find that they then have to query DOL’s e98 site to request the needed information. Taking this extra step lengthens the time required to get the information and presents another layer of inefficiency that contracting officers must endure. Streamlining this process would increase the efficiency of WDOL by integrating WDOL and DOL thereby eliminating NTIS and the lag time of their weekly update and possible inaccuracies presented when another layer is added to the process.

D. ONLINE REPRESENTATIONS AND CERTIFICATIONS APPLICATION (ORCA)

ORCA is used by contracting officers and potential contractors and was established one year after the CCR was created. ORCA is an online database mandated by FAR 52.204-8 through which government contractors annually execute the standard certifications and representations for sales to the government. These certifications include those related to size standards, outstanding debt to the government, lawsuits, violations of law, and compliance with labor standards and trade agreement obligations. ORCA is used in the stages of solicitation, award, and to make a responsibility determination. Unlike some of the other procurement legacy systems, ORCA records are public information and only a DUNS number is needed to begin the search. ORCA was created as a part of the federal government’s effort to broaden the use of electronic business applications and to eliminate the need for potential contractors to submit the same information to different government contracting and payment offices. Prior to ORCA, contractors had to submit representations and certifications for each contract action (Belkin, 2007). ORCA allows that same information to be maintained so that contracting officers can access it for numerous contracts and contractors only have to enter it once. It is still up to the contractor to ensure that the information in ORCA is accurate for each acquisition.

For any contract that requires an active CCR registration, an ORCA registration is also required. ORCA and CCR are complementary systems, as ORCA reuses data pulled

from CCR and prepopulates many of the required representations and certifications leaving the contractor to only have to complete the remaining fields and to certify the information as current, accurate and complete. Similar to CCR, ORCA also has to be updated every twelve months. Because these two systems are complementary, there are issues with ORCA related to the separate CAGE and DUNS for each office just as there are in CCR. Another common error with ORCA is related to the information input by contractors. They are not simply asked to check boxes for compliance; instead the certifications come from questions asked by the system related to the business and financial information submitted by the contractor. The system uses the answers to the questions to populate the compliance certifications without the contractor's direct input. This concept of indirect input creates the potential for misinformation especially in the areas of Trade Agreements Act, EEO, and affirmative action compliance (Belkin, 2007).

ORCA could be made more efficient by utilizing the same parent CAGE and sub-CAGE search that the author suggested with the CCR. Since the information from CCR is fed to ORCA then it would make the best use of integration if the concept flowed to ORCA as well. Doing this would lessen the errors in CCR and hence lessen the errors experienced by ORCA. Another change that should be made in ORCA is that the answers to questions should not be used to populate the certification information. Contractors should be able to answer the certification information directly in ORCA just as they did before it was an electronic system. This direct input would reduce the risk of incorrect answers to questions resulting in inaccurate certifications thereby increasing efficiency in federal government contracting.

E. PAST PERFORMANCE INFORMATION RETRIEVAL SYSTEM (PPIRS)

PPIRS is a repository of contractor performance evaluations from Contractor Performance Assessment Reporting System (CPARS), Construction Contract Administration Support System (CCASS) and Federal Awardee Performance and Integrity Information System (FAPIIS) across the federal government. CPARS, which will be included in SAM as a part of PPIRS contains unclassified contractor past performance information and provides a record, both positive and negative, on a given

contractor during a specific period of time. CCASS contains unclassified past performance information relating to the completion, distribution, and retrieval of construction contract performance evaluations. FAPIIS collects contractor and grantee performance information including Terminations for Cause or Default, Defective Cost and Pricing Data, Determinations of Non-Responsibility, Terminations for Material Failure to Comply (Grants), Recipient Not Qualified Determinations (Grants), DoD Determination of Contractor Fault and Administrative Agreements. Records in FAPIIS are input utilizing CPARS and after they are completed in FAPIIS, they become available in PPIRS where they are used to support future acquisitions (www.cpars.csd.disa.mil/FAPISmain.htm). DoD also has a separate system called Architect-Engineer Contract Administration Support System (ACASS), which is used for Architectural Engineering contracts and ACASS contracts are not yet in PPIRS.

Report Card (RC) and Statistical Reporting (SR) are the two components that PPIRS consists of. SR provides objective and statistical performance information for low dollar value contracts. RC is the single source of contractor past performance information for major contracts and with the exception of DoD procurements categorized by business sector; it is required for contracts for products and services greater than \$100,000. It should be noted that on October 1, 2011, the Simplified Acquisition Threshold (SAT) was increased from \$100,000 to \$150,000 (Perera, 2010). However, the author's research resulted in no indication that the PPIRS threshold has been raised to \$150,000 yet. A RC is not required until at least 12 months have passed since the contract was awarded. Figure 2 shows the data flow of information to PPIRS and although it shows ACASS/CCASS, ACASS data does not flow to PPIRS but it is a planned improvement.

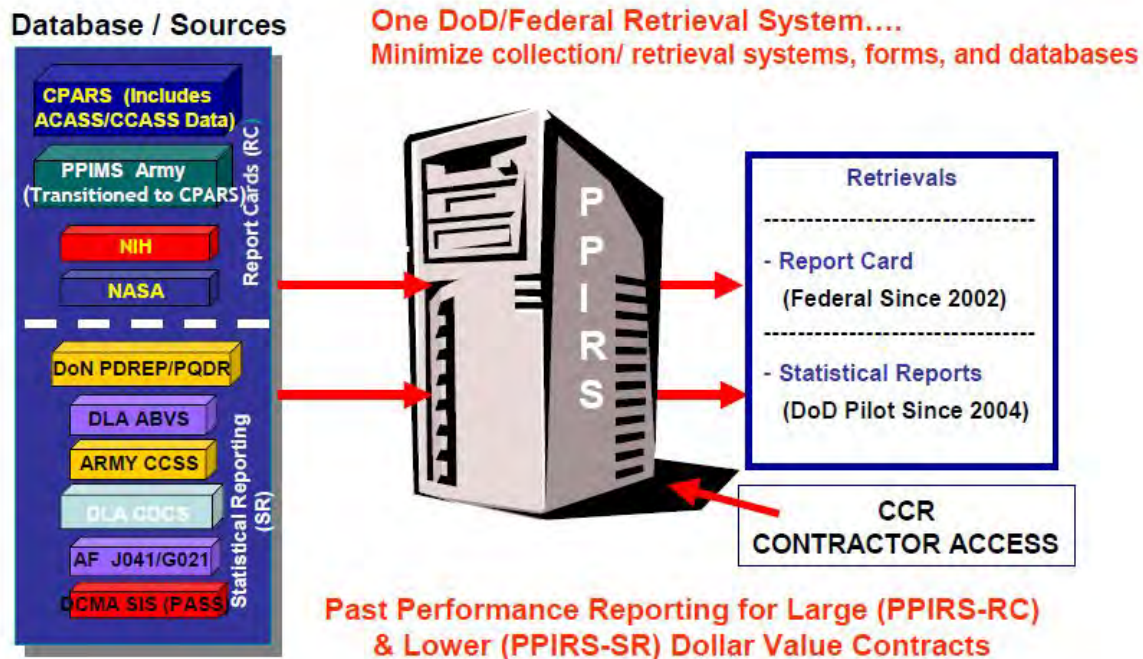


Figure 2. PPIRS data flow (From: Bartley & Ross, 2009)

While the use of PPIRS is not mandatory, it is the single authorized application to retrieve contractor performance information. The system assists contracting professionals when making best value decisions when past performance is an evaluation factor. Past performance contact information is one of the fields required in the CCR. This information is transmitted to PPIRS on a weekly basis so if a contracting professional is evaluating past performance information before the CCR update to PPIRS, then the past performance point of contact information will be inaccurate.

Contractors can only access their own information in PPIRS and government access is restricted to contracting officials and members of the source selection team that are working on source selections including contractor responsibility determinations (www.ppirs.gov). This restricted access in PPIRS is implemented through the use of focal points. A team of authorized agents control access to PPIRS and these agents are divided along organizational lines into segments also known as “groups.” Each group has a primary point of contact called a Group Owner and could also have a secondary point of contact called a Group Manager. PPIRS users create an account and then submit

a request for access to include their justification for access and the group owner or manager has to give permission for access. If a group manager or owner receives a request and determines that the request was not sent in error but that the requestor does not have a legitimate “need to know,” the requestors PPIRS account also gets deleted.

There are several inefficiencies associated with PPIRS. First, there are numerous agency-specific past performance systems, some with specialized data that feed to PPIRS. The greater the number of systems that data originates from the greater the chances there are for errors in reporting. In addition to the systems that feed PPIRS there are past performance systems such as ACASS that do not transmit to PPIRS at all. Second, PPIRS is not a mandatory source so agencies can still use their own manual system for past performance. This results in different agencies using different past performance information to evaluate contractors with the possibility that the evaluation is on similar work. Also, the primary purpose of PPIRS was to have a central system for past performance information and if different agencies have different information then it defeats the purpose of a central system. Finally, the CCR past performance point of contact information being updated only weekly creates inefficiency due to the delayed data availability. These improvements in PPIRS would make it a more efficient system and would streamline the process for accessing past performance information.

F. EXCLUDED PARTIES LIST SYSTEM (EPLS)

EPLS is a comprehensive list of individuals and companies that are debarred, suspended, or proposed for debarment or otherwise excluded by federal government agencies from receiving federal contracts or federally approved subcontracts and from certain types of federal financial and nonfinancial information (www.epls.gov). EPLS is used in the award and responsibility determination phases of government contracting. EPLS is authorized IAW FAR 9.405 and contracting officers must check EPLS after the opening of bids or receipt of proposals and again immediately before award even if it was already checked during the establishment of the competitive range. Even once an award is made, EPLS has to be checked again before any new work is awarded. The purpose of EPLS is to ensure that agencies do not award contracts, grants, and consent to

subcontracts with debarred, suspended or otherwise excluded parties. Updates to EPLS are available in real time but the updates the reports are updated during the nightly run. Although individual agencies can maintain an internal database for suspended or debarred contractors, EPLS is the only official government-wide system for this information.

EPLS consists of three exclusion types that are reciprocal, procurement and nonprocurement. Reciprocal exclusions are a combination of both procurement and nonprocurement exclusions initiated on or after August 25, 1995, and individuals or companies with this type of exclusion are not eligible to participate in federal contracts, sales programs, and nonprocurement federal financial and nonfinancial benefit and loan programs. Procurement exclusions consist of actions taken before August 25, 1995, of individuals, businesses, contractors, and entities that are not eligible to participate in federal contracts and sales programs only. The procurement exclusion does not keep the individual or company from participating in nonprocurement programs. The final exclusion is the nonprocurement list, which is a list of actions taken before August 25, 1995, of those not eligible to participate in nonprocurement federal financial and nonfinancial benefit and loan programs only. The nonprocurement exclusion does not keep the individual or contractor from participating in procurement actions. Since both the procurement and nonprocurement lists are only for those actions taking place before August 25, 1995, only updates to existing actions and deletions are allowed but not any new actions. Once the last action is deleted, both exclusions will be removed from EPLS. However, users do not have to choose an exclusion type for searches, so when a user searches current exclusions, then it only searches the reciprocal list, since only the reciprocal lists contains current exclusions.

When a user searches the archives, a single search would reveal a list from all three exclusion types. When a user searches reports, they must choose an exclusion type but multiple types can be chosen for one report. Most contracting professionals perform a name search in EPLS, and when a company name is searched (either partial or exact), if they are not on the list EPLS returns a message that states “Your search returned no results.” Companies with similar names could result in a search even though it may not

be the same exact company so contracting professionals must practice due diligence to ensure that the information provided is for the exact company that they are searching for.

To help make EPLS more efficient, there could be one exclusion list and there could be a designation when a user searched if it is a procurement or nonprocurement exclusion. Other than procurement and nonprocurement, there really does not seem to be a reason to also separate information before August 25, 1995, so that delineation could be eliminated. Additionally it would be much more efficient if users could search firms by CAGE code and instead of just a message stating that the search returned no results, the search could return information on an individual CAGE code with information as to whether the contractor is suspended or debarred. Additionally, since contracting officers rarely have the name of all key individuals for a given company, when a CAGE is searched any associated individuals with that CAGE should also result from the search.

G. FEDERAL PROCUREMENT DATA SYSTEM–NEXT GENERATION (FPDS-NG)

FPDS-NG is a database used to display public information on contract actions above the micro purchase threshold and it is not populated until it is time for an award or modification to be made. Contractors have minimal access to FPDS-NG and they are not given an opportunity to modify the data. The system is used by agencies, Congress, government policy and oversight organizations, public interest groups, and the public. FPDS-NG has been historically criticized for providing erroneous information. The inaccurate information is often the result of input by contracting professionals relating to the manner in which the contract was competed, the NAICS code of the procurement and business size of the contractor. Additionally fields such as the Funding Office code is often not known by acquisition users, which results in incorrect codes being input. Mandatory fields change often with no explanation in FPDS-NG, so in the haste to get acquisitions awarded, acquisition users populate fields based on best guesses and often the information may not be correct.

FPDS-NG information is searchable by the public but often it is not available until at least 60 days from the date of the action. The most common error in FPDS-NG

relates to a contractor's reported business size. These errors mostly result from the information that is automatically populated from the CCR. Business size issues related to the CCR were already discussed earlier in the chapter. This erroneous information from the CCR can cause a contractor to be classified as a small business when they are not and the contractor cannot change information in FPDS-NG even if they notice this incorrect reporting. In fact as a result of the business size standard incorrect information in FPDS-NG, in July 2006, the ranking Democrat on the U.S. House Committee on Small Business sent letters to 2,500 companies requesting that they contact federal ordering agencies to correct information in the agency's records that identified the companies as small (Belkin, 2007). The letter went on to indicate that ordering agencies may have been mistaken in their coding of business size in FPDS-NG. On an annual basis, agencies are required to annually certify the completeness and accuracy percentages of the data in the system.

FPDS-NG does interact with some existing legacy procurement systems and that seems to decrease the efficiency of the system. It would be more efficient if the information only had to be entered once as a part of one system and the data could then be updated once as well. As mentioned above, the vendor information in FPDS-NG comes from information reported in the CCR. FPDS-NG also transmits information to www.usaspending.gov, a public database that displays information on federal spending on procurements, grants, and loans by department on a monthly basis. Additionally, FPDS-NG interfaces with eSRS, when a report indicates that a subcontracting plan was required then the information is transmitted to eSRS.

H. ELECTRONIC SUBCONTRACTING REPORTING SYSTEM (ESRS)

The eSRS system was officially launched in October 2005 and DoD began using it in October 2008 for unclassified contracts. eSRS is used to collect information from prime contractors on small business subcontract plans and accomplishments. This system is used by prime contractors and contracting officers. As mentioned in the previous section, eSRS has a real time contract retrieval interface with FPDS-NG. Contractors can enter their contract number into eSRS, and the associated data will be transmitted from

FPDS-NG to eSRS for reporting. The eSRS system is meant to streamline the process of subcontracting plan reporting and provides agencies with access to analytical data on subcontracting performance. Paper forms such as the SF 294, Individual Subcontracting Reports and SF 295, Summary Subcontracting Reports are no longer necessary as eSRS now collects that data. Currently contractors and their business associates report their contract accomplishments using an easy data entry process.

The basic contractor information is prepopulated from the CCR so if the information in the CCR is incorrect, the eSRS information will also be incorrect. Contractors must correct any inaccurate information directly in the CCR. Once the information is corrected in CCR, it takes an estimated two business days before that update is reflected in eSRS.

There are three types of reports in eSRS: Individual Subcontract Reports (ISR), Summary Subcontract Reports (SSR), and Commercial Reports (CR). The ISR replaced the SF 294 mentioned above and collects subcontract award data from prime and subcontractors that hold a contract over \$650,000 or \$1.5M for construction or a public facility and are required to report subcontracts awarded to socioeconomic business classes such as Small Business, Women-Owned Small Business, and Veteran-Owned Small Business. For DoD, National Aeronautics and Space Administration (NASA), and the Coast Guard, the ISR also collects subcontract awards for Historically Black Colleges and Universities and Minority Institutions. The SSR replaced the SF 295 and is required for the same circumstances as the ISR. ISRs are not required for small business or for commercial items with an approved commercial plan. Both the ISR and SSR are due semi-annually and the ISR is also due at contract completion. Prime contractors and higher-tier subcontractors are responsible for reviewing their subcontractor's ISRs and the government reviews the prime's ISR and all of the SSRs. It should be noted that the prime has to enter an ISR before the subcontractors can enter their ISR. The CR is required in order to file the SSR but not the ISR and they are filed once per year. When a contractor enters an SSR, eSRS prompts them to specify if the report is for a commercial plan and if it is then a variation of the SSR is provided for the contractor to complete. CRs are due within 30 days after the government's fiscal year ends.

One significant difference for a user of eSRS is that there are many help features to assist contractors when entering data. Not only does eSRS include user manuals, but before a report is even entered the system lets the user know what information they will need to complete the reports and finally there are help bubbles throughout the screens, which are symbolized by question marks that users can use to get assistance with the specific field that they are having trouble with.

The transfer of data from CCR and FPDS-NG to eSRS saves contractors time in eSRS when the information is correct but when there is an error in the information this transfer of data actually causes additional time. Contractors should be able to change the information in eSRS and have a notification sent to CCR and FPDS-NG so that acquisition professionals and the contractor's CCR point of contact know that a change is needed in those systems as well. There should also be a "real time" feed between the systems so that time is not lost waiting for the systems to update, which would result in increased efficiency. The eSRS system seems to have the least instances of errors in reporting, which is likely a result of the help features in the system but real time integration of data between the systems is definitely a needed improvement that will increase the efficiency of eSRS.

I. CATALOG OF FEDERAL DOMESTIC ASSISTANCE (CFDA)

CFDA is a system that provides a full listing of all of the federal programs projects, services, and activities that provide assistance or benefits to the American public. It provides a full listing of financial and nonfinancial assistance programs available to state and local governments, federally-recognized Indian tribal governments, Territories and possessions of the United States, domestic public, private profit and nonprofit organizations and institutions, specialized groups, and individuals. As of August 13, 2011 CFDA had 2,182 federal assistance programs. Figure 3 shows the 2,182 federal assistance programs and the program distribution for the top five issuing agencies.

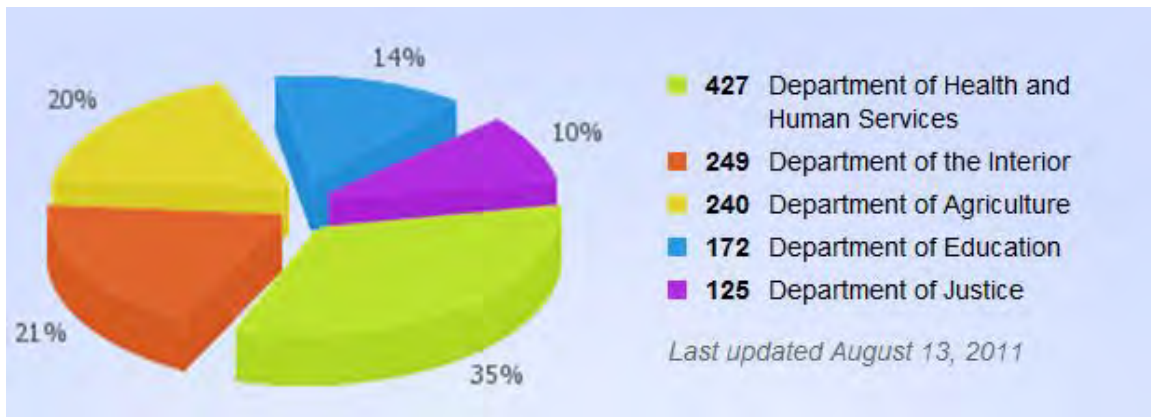


Figure 3. CFDA statistics: Programs at a glance (From: CFDA, www.cfda.gov)

CFDA is the basic reference source of federal programs, and the primary purpose is to assist users in identifying programs that meet specific objectives of the potential applicant, and to obtain general information on federal assistance programs. Additionally, CFDA is intended to improve coordination and communication between the federal government and State and local governments. Prior to this electronic version, a printed version of the CFDA was distributed. The assistance provided by the programs in the CFDA could range from scholarships, mortgage loans, insurance, grants, property, technical assistance, counseling and expert information. This assistance refers to any transfer of money, property, services, or anything of value with the principal purpose being to accomplish a public purpose of support or stimulation authorized by federal statute.

A user account is not required to search in CFDA. The information is freely available to any interested party and searches can be accomplished by keyword, agency, or program number and there is also an advanced search feature. The public can also download data from the CFDA public File Transfer Protocol (FTP) site and information can be downloaded from that site from the daily file where information is updated daily or from the weekly file where information is updated weekly. Federal government users can request a user account but it is only for those federal government employees managing CFDA information. For tracking purposes and transparency of government to assist in reporting on Federalreporting.gov (provides information for awards under the

American Recovery and Reinvestment Act (ARRA) of 2009), each program is assigned a unique number by agency and program that follows the program throughout the assistance lifecycle enabling data and funding transparency. Federalreporting.gov validates CFDA numbers against those published on the CFDA site and all ARRA funded programs have to have valid CFDA numbers or the entry in Federalreporting.gov will be rejected.

Other than the validation in Federalreporting.gov that is done within that system, there is no exchange of information between CFDA and other systems. Since most users do not have accounts there is no way to contact users with new programs or updates to programs based on their search. The system could be made more efficient if there was an option for users to be notified via e-mail when the system locates new results based on their search or when updates are made to their search. Doing this would reduce the instances of users searching regularly only to possibly get pages of the same results that users have to go through to evaluate if any changes were made since the previous search. Unlike the other legacy procurement systems, the increased efficiency of CFDA would occur more from greater functionality being available within the system instead of better integration, streamlining, or data sharing.

J. SUMMARY

Many of the legacy procurement systems currently interact with one another but pitfalls in one system also create limitations in another system. Figure 4 shows the current procurement systems and their stage in the acquisition cycle. Currently, contractors use CCR, ORCA, and FBO to register to do business with the government, record representations and certifications, and view and respond to opportunities. Currently, government acquisition personnel use all of the systems listed in this chapter to make an award determination. SAM will provide a single login and streamlined process for both contractors and government acquisition personnel, allowing them to find in one place all of the information needed for award. All of the systems are best suited for unclassified information due to the Internet mechanism that users access it and some systems are accessible to the public while others are restricted to government access only.

All of the systems have a useful purpose to acquisition professionals and the public. However, there is room for improvement in all of the systems by way of increasing efficiency through the savings of time provided by a single login and password and the hosting expense savings created by having one system instead of multiple systems. It is the author's hope that SAM will improve these inefficiencies.

This chapter focused on the current legacy procurement systems, their capabilities and where inefficiencies can be improved. The next chapter will focus on SAM and how it provides streamlining, integration, and efficiencies in federal government contracting databases.

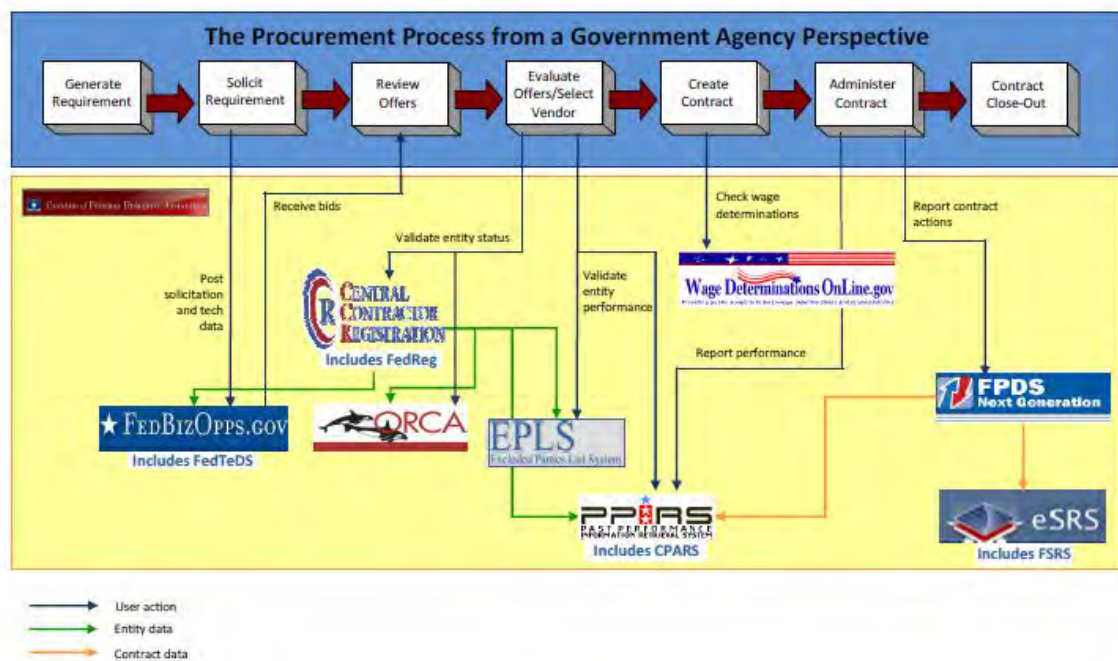


Figure 4. Current procurement process (From: GSA: *SAM—Creating Efficiencies through Integration and Consolidation*, July 2011)

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IV. SYSTEM FOR AWARD MANAGEMENT (SAM)

A. OVERVIEW

SAM is being deployed in 2012 in an effort to streamline and integrate acquisition processes and eliminate redundancies. SAM will provide one login for several systems and provide all of the information needed to make an award determination. SAM is not a portal to the existing systems but instead provides a more streamlined, user-friendly approach to get all of the information offered by the legacy systems. The proposed result will be reduced costs and improved capability for contracting professionals as well as contractors. SAM will increase data quality by consolidating the information from legacy systems into one system thereby eliminating redundant data. It will be a single portal, which will provide consolidated access to the following procurement systems:

- a. Catalog of Federal Domestic Assistance (CFDA)
- b. Federal Business Opportunities (FBO)
- c. Central Contractor Registration (CCR)
- d. Wage Determinations On-Line (WDOL)
- e. Online Representations And Certifications Application (ORCA)
- f. Past Performance Information Retrieval System (PPIRS)
- g. Excluded Parties List System (EPLS)
- h. Federal Procurement Data System–Next Generation (FPDS-NG)
- i. Electronic Subcontracting Reporting System (eSRS)

The benefits of SAM will result in a more streamlined and integrated process that will ultimately reduce government costs by eliminating data redundancies. While SAM is estimated to be a \$35 million consolidation, the savings experienced from no longer having to maintain and operate separate systems will equal the cost in three years according to Chris Fornecker, Chief of GSA's Acquisition Systems Division (Chacko, 2011). Figure 5 displays the current framework of the contracting procurement systems as they are today as siloed and separate systems and in contrast how they will be in the future with SAM as one streamlined system. The streamlined system will prevent multiple logins with data overlap among them, which currently creates opportunities for

errors. There are currently various standards and service level agreements experienced from having multiple hosting and support systems, which yields various inefficient levels of service support. Also, having multiple hosting vendors is more expensive than consolidated hosting.

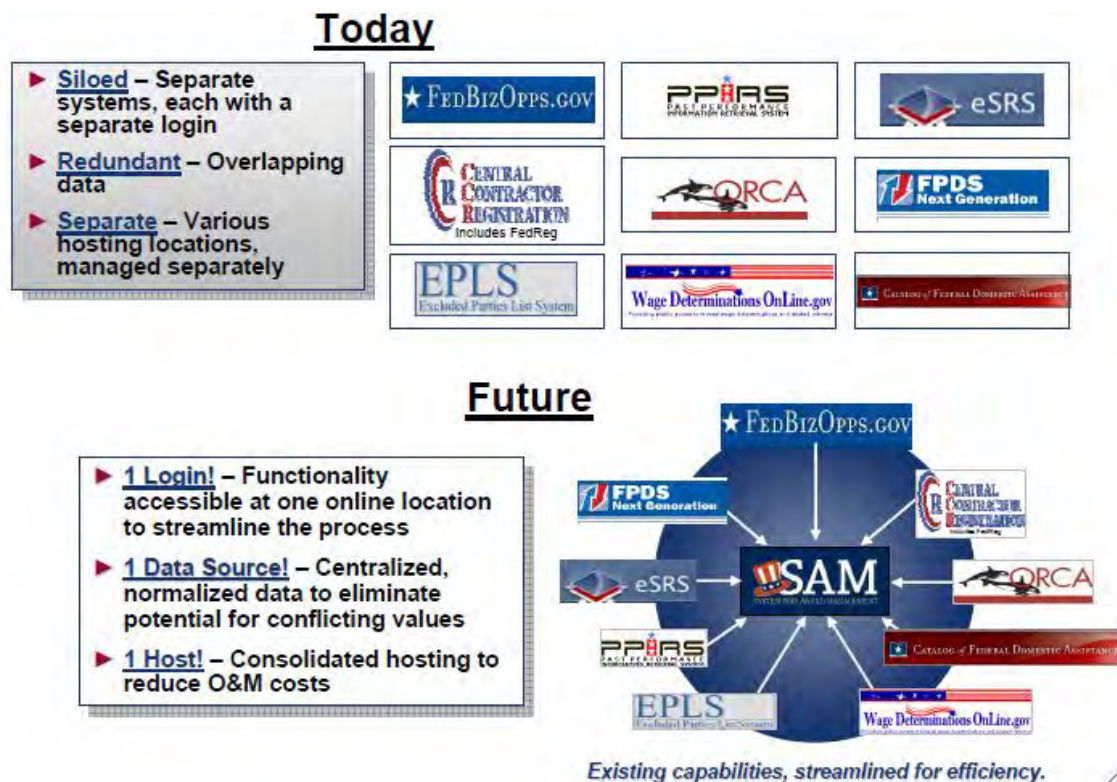


Figure 5. SAM–Today and in the future (From: GSA: *SAM–Creating Efficiencies through Integration and Consolidation*, July 2011)

B. STREAMLINING AND INTEGRATION

SAM will provide both streamlining and integration for government contracting professionals as well as contractors. Contractors using a single user id and login will be able to access capabilities associated with registering to do business with the government, representing or self-certifying business size and viewing business opportunities. Contracting professionals using a single user id and login will be able to determine the appropriate DBA and SCA wage determinations, posting a solicitation, identifying excluded parties, verifying contractor eligibility, and evaluating contractor and sub-contractor performance. SAM will maintain the data capabilities of the nine legacy

systems described in Chapter II of this paper but the data will be consolidated into one location. The use of integration further creates streamlining since all of the data will be in one location with consolidated hosting and a centralized location to access it. System owners and administrators will also benefit from SAM since reducing the number of interfaces also decreases the maintenance challenges and costs. The maintenance challenges stem from having multiple hosting and support systems, which provide varying levels of service to users. Additionally, a consolidated hosting vendor is less expensive than multiple hosting vendors. SAM reduces the number of interfaces and staff resources to maintain those interfaces, thereby creating a cost savings. Each of the systems currently has an individual help desk or help forum for assistance. SAM will utilize a consolidated help desk service called Federal Service Desk (FSD) to assist users with any issues or questions experienced with SAM this includes forgotten passwords or trouble with system access. SAM will also have one consolidated host, which experts believe will lead to reduced operation and maintenance costs since the systems currently each have their own host. IBM is the developer for SAM but since this system was solicited to utilize open software, the architecture and system requirements are being documented and therefore any future upgrades or changes will be competed.

SAM will be organized into six functional areas as pictured in Figure 6. The six areas are 1) Entity Management, which will manage the core data currently provided by CCR and ORCA, 2) Award Management, which will manage the posting of solicitations and awards, managing that award data and subcontractor reporting, which is currently provided by FBO, FPDS-NG, and eSRS, 3) Wage data, which will manage the DBA and SCA wage determinations currently provided by WDOL, 4) Performance Information, which will manage vendor past performance information and the excluded parties list, which is currently provided by PPIRS and EPLS, 5) Assistance Program Catalog, which is currently CFDA, and 6) Support, which is the technical support that will be provided by FSD. SAM is not a portal to the existing legacy system instead it is a new system with the capabilities of the legacy systems. Due to the multiple functional areas, SAM is scheduled to be deployed in phases as shown in Figure 7. Any user that is looking forward to the deployment of SAM and the increased efficiency being a reality quickly

might be disappointed. Although the first phase is planned for 2012, the next two phases are not planned until 2013, the fourth phase is planned for 2014 and the final phase does not currently have a planned phase. If users go to the legacy sites after deployment of a specific system then they will be redirected to SAM. Once a user accesses SAM for the first time, they are prompted to register for a single user id and password in order to access the functionality of those legacy systems in SAM.

► **IAE system capabilities notionally have been organized around six key functional areas**

Functional Area	Capabilities	Legacy Systems
Entity* Management	<ul style="list-style-type: none"> • Manage entity core data • Manage certifications/representations 	<ul style="list-style-type: none"> • CCR/FedReg – Central Contractor Registration • ORCA – Online Representations and Certifications Application
Award Management	<ul style="list-style-type: none"> • Post solicitation and award data • Maintain government-wide contract award data • Manage government-wide subcontractor data 	<ul style="list-style-type: none"> • FBO – Federal Business Opportunities • FPDS-NG – Federal Procurement Data System-Next Generation • eSRS/FSRS – Electronic Subcontracting Reporting System
Wage Data	<ul style="list-style-type: none"> • Access wage determinations 	<ul style="list-style-type: none"> • WDOL – Wage Determination Online
Performance Information	<ul style="list-style-type: none"> • Manage/maintain past performance information • Manage exclusion list 	<ul style="list-style-type: none"> • PPIRS/CPARS – Past Performance Information Retrieval System • EPLS – Excluded Parties List System
Assistance Program Catalog	<ul style="list-style-type: none"> • Create/maintain assistance program catalog 	<ul style="list-style-type: none"> • CFDA – Catalog of Federal Domestic Assistance
Support	<ul style="list-style-type: none"> • Provide security/access control • Provide reporting/communications support • Provide internal controls 	

Figure 6. Six functional areas of SAM (From: GSA: *SAM—Creating Efficiencies through Integration and Consolidation*, July 2011)

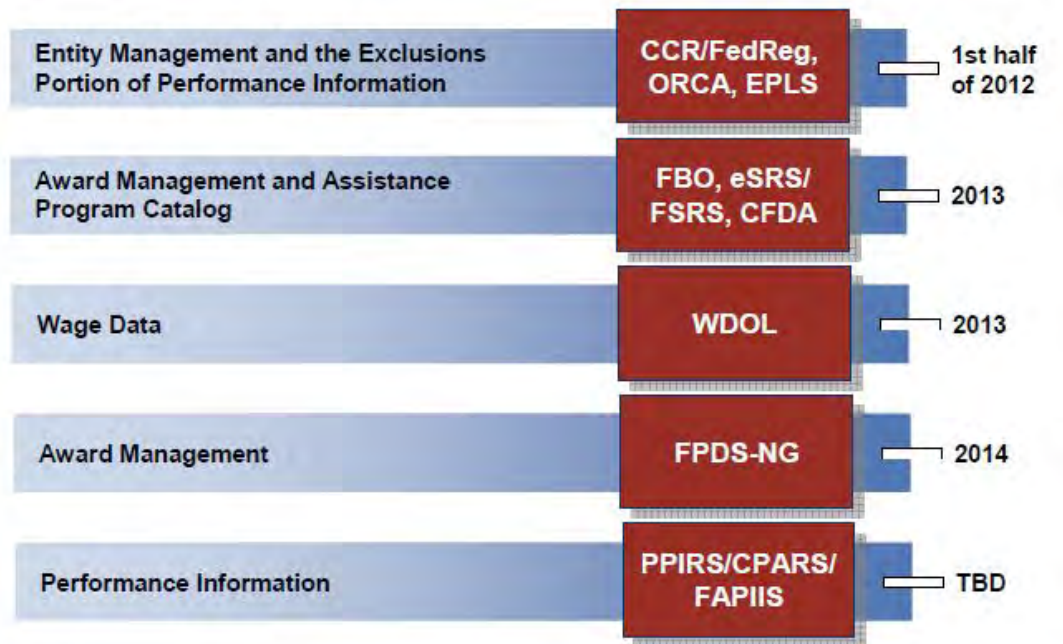


Figure 7. SAM phased timeline (From: GSA: *SAM—Creating Efficiencies through Integration and Consolidation*, July 2011)

To build SAM, developers deconstructed and rebuilt the existing capability without regard for system boundaries but instead focused on logical ordering of process steps, logical grouping of data elements, and the elimination of data redundancies. To protect the sensitive data, each functional level will have four levels of sensitivity in increasing order as follows: public, For Official Use Only (FOUO), sensitive, and system only. User's permissions in the system will determine the level of data that they have access to, which is determined by the sensitivity level. The data that will be extracted from SAM as well as identification of the data that will not carry forward to SAM and the sensitivity levels of each is displayed in the Appendix. Access to SAM will be based on roles and permissions since the current legacy systems contain users with different levels of access. The legacy user profiles, roles and permissions will be mapped to the SAM user profiles, which are linked to roles and permissions. Users e-mail addresses will be the basis of identification in the legacy system and will be used as the basis for developing profiles in SAM. Just as the legacy systems have a primary point of contact, SAM will also require each agency to have the following roles: roles administrator, hierarchy manager, and an administrator for each of the six functional areas. Agencies

may need to make some organizational adjustments to accommodate this change because some of the functional areas contain multiple legacy system functionality. Employees that currently manage the legacy systems may only be trained and familiar with the system that they manage but under the SAM framework they will need to be knowledgeable of the other systems that are a part of that function as well. Not only will SAM utilize integration to create streamlining amongst systems, the change to support by functional area could force streamlining in the organizational structure of agencies as well.

C. CREATING EFFICIENCIES

One of the main focuses of SAM is to eliminate redundancies and increase process efficiencies. According to L. Cooper (personal communication, September 1, 2011), the reduced cost of maintaining separate systems is expected to reduce hosting expense alone by 30% once SAM is fully operational with all of its planned capability. Additional savings is also expected when taking into account the flow down savings that will be experienced by agencies that have their own multiple contract writing, finance, and grants systems, each of which has interfaces to the current separate legacy procurement systems. Also, as stated above, the \$35M consolidation cost of SAM is expected to be recouped in three years based on the savings of no longer having to operate and maintain separate systems. The author expected to find more data related to time savings by acquisition professionals and contractors but there is no quantifiable data yet available. However, based on the author's own experience as an acquisition professional, research in the current databases in preparation for award takes approximately 45 minutes, which does not take into account the many times that one of the systems is down for maintenance or experiencing other technical difficulties. The author expects that SAM will reduce the time experienced with current databases by at least 15 minutes, which then increases when adding the current periodic downtime of systems that will be reduced with SAM. The systems also have to currently interface with one another and the data transfer can take several days, this delay will also be eliminated by SAM.

Overall, SAM will create efficiency by reducing the time currently required by users to search in multiple systems and wait for data to transfer between systems. Efficiency will also be created by reducing the number of hosting systems and support services for the multiple systems, thereby resulting in cost savings of approximately 30%. As stated above, quantifiable data on the time savings was not available, but reducing the burden of multiple logins and passwords on acquisition professionals and contractors is sure to yield savings in terms of time saved by only having one system.

To identify the efficiencies that SAM could improve upon with the legacy systems, we must first revisit the current legacy system inefficiencies that were identified in Chapter III, which are displayed in Table 1.

Table 1. Legacy system inefficiencies

Legacy System	Inefficiencies
FBO	<ul style="list-style-type: none"> • Third party systems such as ASFI being used to post to FBO • No secure place for vendors to upload proposals
CCR	Requiring each office of a contractor to have a separate CAGE and DUNS number, which leads to large businesses sometimes being categorized as small
WDOL	Data coming from DOL to NTIS to get to WDOL and this data only being updated weekly
ORCA	<ul style="list-style-type: none"> • Transfer of basic information from CCR where each office of a contractor has to have its own CAGE code leading to reporting errors • Lack of direct input by contractors, instead certifications are based off of responses to questions

PPIRS	<ul style="list-style-type: none"> • Numerous agency-specific systems that feed to PPIRS • Some past performance systems such as ACASS do not feed to PPIRS • Past performance contact information being populated into the system by the CCR and the information transfer only occurs weekly
EPLS	<ul style="list-style-type: none"> • There should be one exclusion list instead of 3 • Users should be able to search by CAGE code as well as search for individuals associated with a specific CAGE code
FPDS-NG	Information is transmitted from the CCR and if the information such as business size is incorrect in the CCR then it will be incorrect in FPDS-NG also.
eSRS	<ul style="list-style-type: none"> • Transfer of data from the CCR and FPDS-NG that cannot be corrected directly in eSRS • The data that is shared between the systems is not in “real time”
CFDA	No users having accounts yields to users being unable to receive notification when a new assistance program or upgrade to an existing program is posted that meets their interest.

While individual agencies may still use third-party systems to get to ASFI, it is the author’s belief that the use of these third party systems will decrease as SAM because more widely used and its benefits are seen by the acquisition community. Also, since other procurement systems that allow for document upload by contractors such as eSRS will be in SAM, the ability for contractors to upload proposals may be a great possibility in SAM. Currently, proposals are received via traditional mail, e-mail, or uploaded to an

individual agency's site. Oftentimes, the files are too large for e-mail and contractors have to send several files for one proposal, which is inefficient for both the sender and receiver to have to open and send multiple files for the same proposal. Additionally, when proposals are e-mailed and the recipient is out of the office, the proposal sits until they return. Having the proposals in SAM would allow authorized co-worker to access the proposals and work on them in the absence of the assigned person. Allowing vendors to upload their proposals in SAM will reduce the current burden on acquisition professionals and contractors. This increased functionality is not currently planned but SAM brings this capability closer to reality. The rules for the CCR that require a separate CAGE and DUNS for each contractor facility will not change because of SAM, but since all of the data will be in one location, it will be clearer which business are large as a whole and which are small, which should assist with the inefficiencies currently experienced with the CCR and ORCA. Data in WDOL will likely continue to flow from DOL to NTIS to WDOL but since the data is in one system then the updates should occur more frequently. SAM will allow for more direct input in ORCA since many of the questions that are currently asked of contractors will have responses populated from the data that is already in SAM. Unfortunately, the inefficiencies with PPIRS are not likely to be resolved by SAM since as long as PPIRS is not mandatory and agencies can have their own systems, the issue of inconsistent data will still exist. Once SAM is functioning and the streamlining efficiencies are realized it is possible that SAM could become the official past performance depository system thereby removing some of the inefficiencies currently experienced by users of PPIRS. The issue of the past performance point of contact being transmitted from the CCR to PPIRS and sometimes being incorrect and the lag time associated with that upgrade will be eliminated since the data will be in one location and will not need to be transferred. There are no immediate plans for EPLS to be able to be searched by CAGE code, but since CCR information will be in the SAM system then it is reasonable that there is a greater possibility for users to have EPLS functionality in SAM. Contractors that register in SAM will have their information linked across systems so it would be much more efficient when searching for a CAGE

code that additional information such as if that CAGE is suspended or debarred would be available to government contract professionals.

The inefficiencies experienced regarding business size reporting with incorrect information being transmitted from CCR to FPDS-NG would also be eliminated by SAM since the data will be in one system and more easily verifiable. Similarly, the transfer of data from CCR and FPDS-NG that cannot currently be corrected in eSRS should also be eliminated. Data shared between the systems in SAM should be in “real time” and since there will be no transfer of data between systems with different hosts then there should be a lower chance of data inconsistencies, thereby increasing efficiency. Finally, since users will have accounts in SAM there may be a greater opportunity for users to be notified when new assistance programs or upgrades to existing programs are added to the site. It is unclear what the rules will be for members of the general public that want to access CFDA data in SAM but since SAM requires a user id and password even at the public level of sensitivity, it is reasonable to assume that accounts will be required by all users of SAM, which will allow for this e-mail notification and increased efficiency.

D. SUMMARY

There are several inefficiencies experienced with the nine legacy procurement systems that will be integrated into SAM. Some of the inefficiencies are more policy based and policy will have to change in order for those inefficiencies to be addressed. However, the deployment of SAM providing one consolidated system will address many of the inefficiencies currently experienced including increasing the possibility of increased functionality within the systems. Since SAM will have one host, changes will be more cost effective and increased functionality in one part of the system will actually benefit all of the systems. It is important to remember that SAM will not simply be a gateway to the existing systems but it will actually be a new system that encompasses the functionality of all of the current systems and increasing efficiency in federal government contracting databases through the use of streamlining and integration at the same time.

The final chapter will provide a conclusion of SAM's ability to create efficiencies in federal government contracting databases and will include recommendations on additional systems that could be added to SAM to create additional contracting efficiencies.

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V. CONCLUSION AND RECOMMENDATIONS

A. CONCLUSION

The author's research began with the background of acquisition and the inefficiencies currently experienced by the legacy procurement systems, which are plagued by data redundancies and complicated processes. Next the research examined the available writings in the area of creating efficiencies and streamlining in federal government contracting databases as well as available literature on the existing streamlining initiatives and SAM. This was followed by an analysis of the existing initiatives to increase efficiencies in federal government contracting databases including an in-depth analysis of the current legacy procurement systems and the purpose and current pitfalls of each of those systems. Next SAM was evaluated to determine how it will provide streamlining of the existing systems and integration of technology to create efficiencies in the areas lacking by the current legacy procurement systems.

As technology continues to advance, government procurement must follow the same path. Antiquated processes and multiple steps will no longer create value in such a fast paced environment. Instead agencies are looking for more ways to do more with less and to accomplish this streamlining of processes is a necessity. Government contracting professionals continue to be stretched thin and they need reliable tools that make the checks and balances required for each contractor to be as seamless as possible. While SAM will not improve all inefficiencies, the time and cost savings experienced by having all of the capabilities in one system is a marked improvement over the current system.

Some efficiencies SAM will improve on immediately solely because all of the capabilities will be in on system. The efficiencies that SAM will improve on immediately are the data overlap among systems that currently creates errors. The hosting will be consolidated, thereby reducing the hosting costs by 30% and reducing the interfaces needed as well as reducing the number of personnel currently used to maintain those interfaces. Additionally, time of approximately 15 minutes per contract will be saved by acquisition professionals that will only need to log into one system and will not

have to wait for data to be transferred from other systems. The savings of 15 minutes may not seem like a lot, but for acquisition professionals that currently have a workload totaling thousands of contracts, the difference becomes significant. There are some inefficiencies identified in this research that SAM will not improve upon immediately. Those inefficiencies are based on policy that needs to be changed or on an increased capability that is not currently planned, but could be possible in the future. Some of the inefficiencies not currently planned include the ability for contractors to upload their proposals to SAM electronically, the ability to search the EPLS registry by CAGE code, and having all past performance information consolidated into PPIRS. The possibilities of SAM to streamline the procurement process are endless because the greater amount of information contained in one system, the greater chances to extract data free of redundancies and incorrect information. Additionally, users do not have to verify the data by comparing it to what is in other systems as is currently done.

As users experience the benefits of SAM there will be greater opportunities to suggest changes and upgrades to make the system more efficient for the key stakeholders. Acquisition professionals will have a single login and a streamlined process that will provide them with all of the information that they need to make an award determination in one location. Contractors that currently use CCR, ORCA, and FBO to register to contract with the government, record representations, and certifications, and view and respond to opportunities will find the benefits of SAM to be useful to them since they will not have to enter information. They also will not have the lag times currently experienced while waiting for information to transfer from one system to another. SAM is not the answer to all procurement inefficiencies but it is a huge step in the right direction. SAM will create efficiency in federal government contracting databases through the savings of time currently experienced by multiple logins and the savings of cost currently experienced by multiple hosting systems. Both time and cost savings make the processes more efficient and improve the way that federal government contracting is done today using a siloed systems approach.

B. FUTURE RECOMMENDATIONS

Future recommendations for SAM include the ability for contractors to securely upload proposals or quotes in response to Requests for Proposal or Requests for Quotes. This functionality should be a part of FBO since solicitations are posted in FBO. Once this concept is applied, contractors could click on the link for the solicitation in FBO and upload their response to the solicitation in a relatively quick period of time. Additional recommendations include the ability to view summary information including if a contractor is suspended or debarred as well as their past performance history by doing a CAGE code search. Since a CAGE code is a universal identifier for contractors, it seems logical that a government acquisition professional could do a search by CAGE and get pertinent information on a contractor without having to go into multiple screens. To streamline the process for contractors, SAM could have custom searches for planned government requirements based upon the NAICS industries that the contractor manufactures. In other words if the contractor has in their profile the NAICS code for manufacturing cloth then custom searches could be automatically sent to them when the government posts requirements meeting that NAICS code. This would be especially useful to small businesses that find themselves inundated by the multiple government systems when trying to find new business. The overall future recommendation for SAM is that the developers continue to look for new ways to increase efficiency through streamlining processes to include adding additional systems.

C. ADDITIONAL SYSTEMS THAT COULD BE INCLUDED IN SAM

SAM will incorporate nine legacy procurement systems and this is a great start to the streamlining process. The author suggests five additional sites that would increase efficiencies in federal government contracting if they were a part of SAM as well.

FAPIS, CCASS and ACASS should also be a part of SAM as these are all past performance systems that feed to PPIRS. Having PPIRS and CPARS in SAM and not the other systems that share the past performance data decreases efficiency and adds additional opportunities for incorrect information to be extracted. Allowing acquisition professionals to access past performance information in one location reduces the current

time burden of having to go into separate systems to get information on one contractor. Additionally, having multiple systems for past performance information could mean that different information is in those systems, leaving no way to verify which system has the most correct or accurate information to rely upon. More reliable past performance information yields better past performance evaluations in best value procurements and ultimately a more informed best value evaluation process.

Paperless Contract Files (PCF) should be included in SAM to add efficiency. PCF is a document storage, access, and workflow system that is set up like an electronic file cabinet for contract files. The contract documents such as the presolicitation notice, solicitation, small business subcontracting plan, and CCR are all an example of documents that would be a part of the official contract file in PCF. If PCF were a part of SAM then users would not have to upload the documents, instead users could make a selection to transmit the information to PCF. An ideal scenario would be that the required documents would already be identified and the appropriate cabinet in PCF would be mapped so that when users create the cabinet in PCF, the documents in the other portions of the system that relate to that solicitation number would automatically be uploaded. PCF being a part of SAM would result in significant time savings on the part of government acquisition professionals. Time savings creates efficiency since acquisition professionals could use the time saved on other procurements or other acquisition related functions.

Wide Area Workflow (WAWF) is a system that allows vendors to electronically submit invoices and receiving reports, allows the government to perform inspection and acceptance of goods and services and it interfaces with payment systems to receive transactions electronically. WAWF would be an increased efficiency to SAM as it would allow the award information from FPDS-NG to create the basic data needed to start the electronic invoice in WAWF. Additionally, contracting professionals would be able to inspect and accept in the same system that would prompt the invoice to be paid. This inspection and acceptance could even prompt past performance information to be entered as it would show the completion of individual line items. Including WAWF in SAM would also create a time savings for the government and contractors because they could

use the single user id and password to access this key information. Having a single login and hosting for WAWF and SAM would further the 30% estimated cost savings that SAM will provide. In fact, each additional system added to SAM would increase this cost savings because it would eliminate a current siloed hosting system.

As SAM develops the possibilities for other systems and other functions to be included in it will arise. The five key systems identified above will meet the primary goal of SAM, which is to create efficiency, streamline and eliminate redundancies. SAM is on the right path to accomplish the above goal and the addition of the suggested systems will enhance it.

D. SUGGESTED AREAS FOR FURTHER STUDY

This research has made claims about the time savings associated with SAM from acquisition professionals accessing one system instead of multiple systems to get the information needed to make award determinations. However, the author had to rely on her personal knowledge to support this claim since quantifiable data was not available. There could also be a cost savings on the part of contractors associated with accessing one system in preparation for getting a contract instead of multiple systems that could be passed onto the government. Once SAM is deployed, further research is suggested to evaluate the quantifiable time and cost savings that SAM creates for both acquisition professionals and contractors. The reduced burden of using multiple systems is sure to result in actual time savings but it would be useful to have research on exactly how much that savings will be. The author estimated that there would be a time savings of approximately 15 minutes per contract. Future research needs to be done to support this claim.

It is estimated that consolidated hosting will reduce hosting costs by approximately 30% once SAM is fully functional and that additional savings will occur from reducing the use of individual agency's contract writing systems. Further research is needed to validate this claim as well. Once SAM is deployed, future researchers could look at the actual reduction in the use of individual agency's systems and the actual hosting cost savings if any.

Finally, beyond the immediate claims made about SAM in this research, further research could be done related to other ways that efficiency could be created in federal government contracting through the use of consolidating other databases or eliminating other redundancies. An example would be researching the cost savings associated with having one past performance system instead of multiple ones. Consolidation alone does not create efficiency, but consolidation of the right systems that have a useful purpose creates streamlining, which yields efficiency.

E. SUMMARY

SAM will reduce multiple logins and passwords, which will result in the elimination of data overlap and errors that are currently experienced. SAM will further create a time savings to acquisition professionals of approximately 15 minutes per contract. Further the reduced cost of maintaining separate systems is expected to reduce contract and the hosting expense by approximately 30% once SAM is fully functional. The integration of data from the legacy systems to SAM as one consolidated system, increases reporting flexibility by eliminating siloed systems and will improve the overall data quality for the public and the government. It is the author's assessment that GSA will increase efficiency in federal government contracting databases through the use of SAM because time will be saved by having one login and hosting costs will be reduced by having one streamlined system. Time and cost savings create efficiency and reduce data redundancy and errors that are currently experienced with use of the legacy systems.

APPENDIX–LEGACY AND SAM EXTRACT SYSTEMS

SAM EXTRACT/XML DATA ELEMENT LIST					LEGACY DATA ELEMENT EQUIVALENT (CCR/FedReg/ORCA)					WHICH SAM EXTRACT IS THE ELEMENT IN?			
SAM To-Be Extract Details										EXTRACT TYPE			
SAM Extract Element List	Datatype	Data Format	Length	CSV or XML ?	As-Is Source	As-Is Extract Element Mapping	Datatype	Length	CSV or XML ?	Public Extract	FOUO Extract	Sensitive Extract	System-Only Extract
820s Request Flag	STRING	Yes/No	3	BOTH	CCR	RECEIVE 820?	CHAR	3	XML		X	X	X
ABA Routing ID	STRING	Numeric	50	BOTH	CCR	ABA ROUTING ID	CHAR	50	BOTH			X	X
Account Number	STRING	STRING	20	BOTH	CCR	ACCOUNT NUMBER	CHAR	20	BOTH			X	X
Account Type	STRING	C or S	1	BOTH	CCR	PAYMENT TYPE	CHAR	1	BOTH			X	X
ACH E-mail	STRING	STRING	80	BOTH	CCR	ACH E-MAIL	CHAR	80	BOTH			X	X
ACH Fax	STRING	STRING	30	BOTH	CCR	ACH FAX	CHAR	30	BOTH			X	X
ACH Non-U.S. Phone	STRING	STRING	30	BOTH	CCR	ACH NON-U.S. PHONE	CHAR	30	BOTH			X	X
ACH U.S. Phone	STRING	Numeric	30	BOTH	CCR	ACH U.S. PHONE	CHAR	30	BOTH			X	X

Authorization Date	STRING	MMDDY YYY	8	BOT H	CCR	AUTHORIZATION DATE	CHAR	8	BOT H			X	X
Average Annual Revenue	STRING	STRING	15	BOT H	CCR	ANNUAL RECEIPTS	CHAR	15	BOT H		X	X	X
Average Number of Employees	STRING	STRING	15	BOT H	CCR	AVG NUMBER OF EMPLOYEES	CHAR	15	BOT H		X	X	X
Sam Numerics Code String (Bonding Level Value + Local # Employee + Local Ann. Revenue + Total Assets + Megawatt Hours + Barrels Capacity)	STRING	^ Separated	1589	BOT H	CCR	CCR NUMERICS CODE STRING	CHAR	1589	CSV		X	X	X
Business Start Date	STRING	MMDDY YYY	8	BOT H	CCR	BUS START DATE	CHAR	8	BOT H	X	X	X	X
					ORCA	OperationsStartDate	CHAR	10	XML				
CAGE Code	STRING	STRING	5	BOT H	CCR	CAGE CODE	CHAR	5	BOT H	X	X	X	X
					ORCA	CAGE Code	STRIN G	5	XML				

Company Division	STRING	STRING	60	BOTH	CCR	COMPANY DIVISION	CHAR	60	BOTH	X	X	X	X
Division Number		STRING	10	BOTH	CCR	DIVISION NUMBER	CHAR	10	BOTH	X	X	X	X
Company Security Level	STRING	STRING	2	BOTH	CCR	CO SECURITY LEVEL	CHAR	2	BOTH		X	X	X
Corporate URL	STRING	STRING	200	BOTH	CCR	CORPORATE URL	CHAR	200	BOTH	X	X	X	X
Correspondence Flag	STRING	M, F, or E	1	BOTH	CCR	CORRESPONDENCE FLAG	CHAR	1	CSV	X	X	X	X
Country of Incorporation	STRING	STRING	3	BOTH	CCR	COUNTRY OF INC	CHAR	3	CSV	X	X	X	X
Credit Card Usage	STRING	Y or N	1	BOTH	CCR	CREDIT CARD	CHAR	1	CSV	X	X	X	X
					FedReg	CREDIT CARD	Number	1	CSV				
D&B Out of Business Indicator	STRING	0 or 1	1	BOTH	CCR	DNB CURRENT BUSINESS STATUS	CHAR	1	XML		X	X	X
D&B Legal Business Name	STRING	STRING	120	BOTH	CCR	LEGAL BUS NAME	CHAR	120	BOTH	X	X	X	X
					FedReg	BUSINESS NAME	Char	120	CSV				

					ORCA	LegalName	STRIN G	120	XML				
D&B Monitoring Address 1	STRING	STRING	55	BOT H	CCR	DNB MONITORING ST ADD (1)	CHAR	55	BOT H		X	X	X
D&B Monitoring Address 2	STRING	STRING	55	BOT H	CCR	DNB MONITORING ST ADD (2)	CHAR	55	BOT H		X	X	X
D&B Monitoring City	STRING	STRING	35	BOT H	CCR	DNB MONITORING CITY	CHAR	35	BOT H		X	X	X
D&B Monitoring Corporation Name	STRING	STRING	120	BOT H	CCR	DNB MONITORING CORP NAME	CHAR	120	BOT H		X	X	X
D&B Monitoring Country Code	STRING	STRING	3	BOT H	CCR	DNB MONITORING COUNTRY CODE	CHAR	3	BOT H		X	X	X
D&B Monitoring DBA	STRING	STRING	120	BOT H	CCR	DNB MONITORING DBA	CHAR	120	BOT H		X	X	X

D&B Monitoring Last Updated	STRING	MMDDY YYY	10	BOT H	CCR	DNB MONITORING LAST UPDATED	CHAR	10	BOT H		X	X	X
D&B Monitoring Postal Code	STRING	STRING	35	BOT H	CCR	DNB MONITORING POSTAL CODE	CHAR	35	BOT H		X	X	X
D&B Monitoring State or Province	STRING	STRING	50	BOT H	CCR	DNB MONITORING STATE OR PROVINCE	CHAR	50	BOT H		X	X	X
D&B Monitoring Status	STRING	0 or 1	1	BOT H	CCR	DNB MONITORING STATUS	CHAR	1	BOT H		X	X	X
DBA Name	STRING	STRING	120	BOT H	CCR	DBA NAME	CHAR	60	BOT H	X	X	X	X
					FedRe g	TRADESTYLE NAME (PRIMARY)	Char	120	CSV				
					ORCA	DBAName	STRIN G	60	XML				

Delinquent Federal Debt Flag	STRING	Y or N	1	BOT H	CCR	DELINQUENT FEDERAL DEBT	CHAR	1	XML	X	X	X	X
					ORCA	DelinquentFederalDebtIndication	STRING	1	XML				
DUNS	STRING	Numeric	9	BOT H	CCR	DUNS	CHAR	9	BOT H	X	X	X	X
					FedReg	DUNS NUMBER	Char	9	CSV				
					ORCA	DUNSID	CHAR	9	XML				
DUNS+4	STRING	Numeric	4	BOT H	CCR	DUNS-PLUS4	CHAR	4	BOT H	X	X	X	X
					FedReg	DUNS PLUS4	Char	4	CSV				
					ORCA	DUNSPus4ExtensionID	CHAR	4	XML				
EFT Waiver	STRING	Y or F or null	1	BOT H	CCR	EFT WAIVER	CHAR	1	CSV			X	X
EIN/TIN	STRING	Numeric	9	BOT H	CCR	TAX PAYER ID NUMBER	CHAR	9	BOT H			X	X
					FedReg	EMPLOYER IDENTIFICATION NUMBER (EIN)	Number	9	CSV				

Entity Structure	STRING	STRING	2	BOTH	CCR	ORGANIZATIONAL TYPE	CHAR	2	BOTH	X	X	X	X
Exclusion Status String	STRING	STRING	50	BOTH	CCR	EXTERNAL CERTIFICATION STRING	CHAR	50	CSV	X	X	X	X
Financial Institute	STRING	STRING	30	BOTH	CCR	FINANCIAL INSTUTE	CHAR	30	BOTH			X	X
Fiscal Year End Close Date	STRING	YYYY	4	BOTH	CCR	FISCAL YEAR END CLOSE DATE	CHAR	4	BOTH	X	X	X	X
Functional Group Identifier	STRING	STRING	15	BOTH	CCR	GS02 IDENTIFIER	CHAR	15	XML		X	X	X
Disaster Response String (Geographic Area Served: County + Geographic Area Served: Metropolitan Statistical Area + Geographic Area Served: State)	STRING	^ Separate d	70	BOTH	CCR	DISASTER RESPONSE STRING	CHAR	70	CSV	X	X	X	X
Bus Type String (government Type + Other Type + Other	STRING	^ Separate d	300	BOTH	CCR	BUS TYPE STRING (government Type + Other Business or Organization Qualifiers + Other Entity	CHAR	300	BOTH	X	X	X	X

Business or Organization Qualifiers + Other Entity Qualifiers + AbilityOne Flag + Registration Purpose)						Qualifiers + AbilityOne Flag + Registration Purpose)								
Highest Employee Security Level	STRING	STRING	2	BOTH	CCR	EMPLOYEE SECURITY LEVEL	CHAR	15	BOTH			X	X	X
ISA Identifier	STRING	STRING	15	BOTH	CCR	ISA SENDER QUALIFIER	CHAR	15	XML			X	X	X
ISA Qualifier	STRING	STRING	2	BOTH	CCR	ISA QUALIFIER	CHAR	2	XML			X	X	X
Location Employees	STRING	Numeric	15	BOTH	CCR	LOCATION EMPLOYEES	Number	15	XML			X	X	X
Location Receipts	STRING	Numeric	15	BOTH	CCR	LOCATION RECEIPTS	Number	15	XML			X	X	X
Lockbox Number	STRING	STRING	20	BOTH	CCR	LOCKBOX NUMBER	CHAR	20	BOTH				X	X

MPIN	STRING	STRING	9	BOTH	CCR	MARKETING PARTNER ID NUMBER (MPIN)	CHAR	9	BOTH			X	X
NAICS Code String	STRING	^ Separated	12000	BOTH	CCR	NAICS CODE STRING	CHAR	12000	CSV	X	X	X	X
					FedReg	NAICS (space for 20, fixed)	Char	120	CSV				
NAICS Exception String	STRING	^ Separated	1100	BOTH	CCR	NAICS EXCEPTIONS STRING	CHAR	1100	CSV	X	X	X	X
No Public Display Flag	STRING	Y or null	1	BOTH	CCR	NO PUBLIC DISPLAY FLAG	CHAR	1	XML	X	X	X	X
DNB Linkage String (Parent Address + HQ Parent Address + Domestic Parent Address + Global Parent Address)	STRING	^ Separated	1500	BOTH	CCR	PARENT DUNS NUMBER	CHAR	13	CSV		X	X	X
					CCR	DOMESTIC PARENT DUNS NUMBER	CHAR	13	CSV		X	X	X
					CCR	GLOBAL PARENT DUNS NUMBER	CHAR	13	CSV		X	X	X

					CCR	HQ PARENT DUNS NUMBER	CHAR	13	CSV		X	X	X
					CCR	PARENT POC (GL)	CHAR	60	CSV		X	X	X
					CCR	PARENT ST ADD (1)	CHAR	55	CSV		X	X	X
					CCR	DOMESTIC PARENT ST ADD (1)	CHAR	55	CSV		X	X	X
					CCR	GLOBAL PARENT ST ADD (1)	CHAR	55	CSV		X	X	X
					CCR	HQ PARENT ST ADD (1)	CHAR	55	CSV		X	X	X
					CCR	PARENT ST ADD (2)	CHAR	55	CSV		X	X	X
					CCR	DOMESTIC PARENT ST ADD (2)	CHAR	55	CSV		X	X	X

					CCR	GLOBAL PARENT ST ADD (2)	CHAR	55	CSV		X	X	X
					CCR	HQ PARENT ST ADD (2)	CHAR	55	CSV		X	X	X
					CCR	PARENT CITY	CHAR	35	CSV		X	X	X
					CCR	DOMESTIC PARENT CITY	CHAR	35	CSV		X	X	X
					CCR	GLOBAL PARENT CITY	CHAR	35	CSV		X	X	X
					CCR	HQ PARENT CITY	CHAR	35	CSV		X	X	X
					CCR	PARENT COUNTRY CODE	CHAR	3	CSV		X	X	X
					CCR	DOMESTIC PARENT COUNTRY CODE	CHAR	3	CSV		X	X	X
					CCR	GLOBAL PARENT COUNTRY CODE	CHAR	3	CSV		X	X	X

					CCR	HQ PARENT COUNTRY CODE	CHAR	3	CSV		X	X	X
					CCR	DOMESTIC PARENT STATE OR PROVINCE	CHAR	2	CSV		X	X	X
					CCR	GLOBAL PARENT STATE OR PROVINCE	CHAR	2	CSV		X	X	X
					CCR	HQ PARENT STATE OR PROVINCE	CHAR	2	CSV		X	X	X
					CCR	PARENT STATE OR PROVINCE	CHAR	2	CSV		X	X	X
					CCR	PARENT POSTAL CODE	CHAR	35	CSV		X	X	X

					CCR	DOMESTIC PARENT POSTAL CODE	CHAR	35	CSV		X	X	X
					CCR	GLOBAL PARENT POSTAL CODE	CHAR	35	CSV		X	X	X
					CCR	HQ PARENT POSTAL CODE	CHAR	35	CSV		X	X	X
					#N/A	#N/A	#N/A	#N/A	#N/A		X	X	X
					CCR	DOMESTIC PARENT RECORD DATE	CHAR	8	CSV		X	X	X
					CCR	GLOBAL PARENT RECORD DATE	CHAR	8	CSV		X	X	X
					CCR	HQ PARENT RECORD DATE	CHAR	8	CSV		X	X	X
					CCR	DOMESTIC PARENT PHONE	CHAR	30	CSV		X	X	X
					CCR	GLOBAL PARENT PHONE	CHAR	30	CSV		X	X	X

					CCR	HQ PARENT PHONE	CHAR	30	CSV		X	X	X
PSC Code String	STRING	^ Separate d	3500	BOT H	CCR	PSC CODE	CHAR	3500	BOT H	X	X	X	X
					FedRe g	PSC (space for 20, fixed)	Char	80	CSV				
Registration Date	STRING	MMDDY YYY	8	BOT H	CCR	REGISTRATION DATE	CHAR	8	CSV	X	X	X	X
					FedRe g	REGISTRATION DATE (MMDDCCYY)	Char	8	CSV				
Registration Status	STRING	STRING	1	BOT H	CCR	REGISTRATION STATUS	CHAR	1	XML	X	X	X	X
					FedRe g	REGISTRATION STATUS	Char	1	CSV				
Remittance Address Line 1	STRING	STRING	55	BOT H	CCR	REMIT INFO ST ADD (1)	CHAR	55	BOT H			X	X
Remittance Address Line 2	STRING	STRING	55	BOT H	CCR	REMIT INFO ST ADD (2)	CHAR	55	BOT H			X	X

Remittance Address Line 3	STRING	STRING	55	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A			X	X
Remittance Address Line 4	STRING	STRING	55	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A			X	X
Remittance City	STRING	STRING	35	BOTH	CCR	REMIT INFO CITY	CHAR	35	BOTH			X	X
Remittance Country	STRING	STRING	3	BOTH	CCR	REMIT INFO COUNTRY CODE	CHAR	3	BOTH			X	X
Remittance Name	STRING	STRING	60	BOTH	CCR	REMIT INFO POC (RI)	CHAR	60	BOTH			X	X
Remittance State or Province	STRING	STRING	50	BOTH	CCR	REMIT INFO STATE OR PROVINCE	CHAR	50	BOTH			X	X
				BOTH	CCR	REMIT INFO STATE OR PROVINCE	CHAR	50	BOTH				

Remittance Zip Code	STRING	STRING	35	BOTH	CCR	REMIT INFO POSTAL CODE	CHAR	35	BOTH			X	X
Remittance Zip Code +4	STRING	Numeric	4	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A			X	X
Renewal Date	STRING	MMDDYY	8	BOTH	CCR	RENEWAL DATE	CHAR	8	BOTH	X	X	X	X
SAM Extract Code	STRING	Numeric	1	CSV	CCR	CCR EXTRACT CODE		1	CSV	CSV Only	CSV Only	CSV Only	CSV Only
SAM Address 1	STRING	STRING	55	BOTH	CCR	ST ADD (1)	CHAR	55	BOTH	X	X	X	X
					FedReg	ADDRESS LINE 1 (PHYSICAL)	Char	55	CSV				
					ORCA	Street	STRING	55	XML				
SAM Address 2	STRING	STRING	55	BOTH	CCR	ST ADD (2)	CHAR	55	BOTH	X	X	X	X
					FedReg	ADDRESS LINE 2 (PHYSICAL)	Char	55	CSV				
					ORCA	AdditionalStreet	STRING	55	XML				
SAM Address 3	STRING	STRING	55	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A	X	X	X	X

SAM Address 4	STRING	STRING	55	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A	X	X	X	X
SAM City	STRING	STRING	35	BOTH	CCR	CITY	CHAR	35	BOTH	X	X	X	X
					FedReg	CITY (PHYSICAL)	Char	40	CSV				
					ORCA	CityName	STRING	35	XML				
SAM Country Code	STRING	STRING	3	BOTH	CCR	COUNTRY CODE	CHAR	3	BOTH	X	X	X	X
					FedReg	COUNTRY CODE (PHYSICAL)	Char	3	CSV				
					ORCA	CountryIdentificationCode	STRING	3	XML				
SAM Province or State	STRING	STRING	50	BOTH	CCR	STATE OR PROVINCE	CHAR	50	BOTH	X	X	X	X
					FedReg	STATE (PHYSICAL)	Char	50	CSV				
					ORCA	CountrySubEntityCode	STRING	2	XML				
SAM Zip Code	STRING	STRING	35	BOTH	CCR	POSTAL CODE	CHAR	35	BOTH	X	X	X	X

					FedRe g	POSTAL CODE (PHYSICAL)	Char	35	CSV				
					ORCA	PostalZone	STRIN G	35	XML				
SAM Zip Code +4	STRING	Numeric	4	BOT H	#N/A	#N/A	#N/A	#N/A	#N/A	X	X	X	X
SAM Congressional District	STRING	Numeric	2	BOT H	#N/A	#N/A	#N/A	#N/A	#N/A	X	X	X	X
SBA Business Types String (SBA Business Types + SBA Cert Exp Date)	STRING	^ Separate d	110	BOT H	CCR	SBA CERTIFICATION STRING	CHAR	110	BOT H	X	X	X	X
State of Incorporation	STRING	STRING	2	BOT H	CCR	STATE OF INC	CHAR	2	CSV	X	X	X	X
Agency Business Purpose	STRING	STRING	1	BOT H	FedRe g	BUSINESS TYPE	Number	1	CSV	X	X	X	X
Agency Location Code	STRING	STRING	8	BOT H	FedRe g	AGENCY LOCATION CODE (ALC)	Char	8	CSV	X	X	X	X
Annual Revenue	STRING	STRING	15	BOT H	FedRe g	ANNUAL REVENUE	Number	15	CSV		X	X	X

Department Codes	STRING	STRING	2	BOTH	FedReg	TREASURY INDEX	Char	2	CSV	X	X	X	X
Disbursing Office Symbol	STRING	STRING	5	BOTH	FedReg	DISBURSING OFFICE (DO)	Char	5	CSV			X	X
DODAAC	STRING	STRING	9	BOTH	FedReg	DUNS NUMBER	Char	9	CSV	X	X	X	X
Expiration Date	STRING	MMDDYY	8	BOTH	FedReg	EXPIRATION DATE (MMDDCCYY)	Char	8	CSV	X	X	X	X
Merchant ID 1	STRING	STRING	120	BOTH	FedReg	MERCHANT ID1	Char	120	CSV			X	X
Merchant ID 2	STRING	STRING	120	BOTH	FedReg	MERCHANT ID2	Char	120	CSV			X	X
Agency Parent DODAAC	STRING	STRING	9	BOTH	FedReg	PARENT DUNS	Char	9	CSV	X	X	X	X
Agency Parent DUNS	STRING	Numeric	9	BOTH	FedReg	PARENT DUNS	Char	9	CSV		X	X	X
Parent Legal Business Name	STRING	STRING	120	BOTH	FedReg	PARENT NAME	Char	120	CSV		X	X	X
Accounting Station	STRING	STRING	6	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A			X	X
FOUO POC String	STRING	^ Separate	8,000	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A		X	X	X

Primary NAICS	STRING	STRING	6	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A	X	X	X	X
Public POC String	STRING	^ Separated	6000	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A	X	X	X	X

Mailing Address Line 1	STRING	STRING	55	BOTH	CCR	MAILING ADD ST ADD (1)	CHAR	55	BOTH	X	X	X	X
Mailing Address Line 2	STRING	STRING	55	BOTH	CCR	MAILING ADD ST ADD (2)	CHAR	55	BOTH	X	X	X	X
Mailing Address Line 3	STRING	STRING	55	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A	X	X	X	X
Mailing Address Line 4	STRING	STRING	55	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A	X	X	X	X
Mailing City	STRING	STRING	35	BOTH	CCR	MAILING ADD CITY	CHAR	35	BOTH	X	X	X	X
Mailing Country	STRING	STRING	3	BOTH	CCR	MAILING ADD COUNTRY CODE	CHAR	3	BOTH	X	X	X	X

Mailing Name	STRING	STRING	60	BOTH	CCR	MAILING ADD POC (FE)	CHAR	60	BOTH	X	X	X	X
Mailing State or Province	STRING	STRING	50	BOTH	CCR	MAILING ADD STATE OR PROVINCE	CHAR	50	BOTH	X	X	X	X
Mailing Zip Code	STRING	STRING	35	BOTH	CCR	MAILING ADD POSTAL CODE	CHAR	35	BOTH	X	X	X	X
Mailing Zip Code +4	STRING	Numeric	4	BOTH	#N/A	#N/A	#N/A	#N/A	#N/A	X	X	X	X
FAR Provision XXXXXXXX	STRING	STRING		XML	ORCA	FARXXXXXX		1	XML	X	X	X	X
SF330 PartII Provision XXXXXXXX	STRING	STRING		XML	ORCA	SF330Part II		1	XML	X	X	X	X
DFARS Provision XXXXXXXX	STRING	STRING		XML	ORCA	DFARXXX.XXX-XXXX		1	XML	X	X	X	X

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